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In The

Supreme Court of the United States

PELLA CORPORATION AND
W.L. GORE & ASSOCIATES, INC.,

Petitioners,

v.

ANDERSEN CORPORATION,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

In U.S. Patent No. 6,880,612, Andersen Corporation claimed to have invented a less visible insect screen for use in doors and windows. Both lower courts found it undisputed that the claimed screen could have been made at the time simply by taking commercially available wire screening and painting it black. The district court granted summary judgment holding the patent invalid as obvious under 35 U.S.C. § 103. The Federal Circuit, however, applying the same "rigid approach" to obviousness that this Court rejected in *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398 (2007), reversed the district court's judgment, finding issues of fact that precluded summary judgment. 300 Fed. App'x 893.

The question presented for review is:

Did the Federal Circuit err by using the same factors that this Court rejected as part of the obviousness analysis in *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398 (2007), to limit the scope of the prior art that can be considered in that analysis?

RULE 14.1(b) AND RULE 29.6 STATEMENT

Petitioner Pella Corporation has no parent company, and no publicly held company owns 10% or more of Pella Corporation's stock.

Petitioner W.L. Gore & Associates, Inc. has no parent company, and no publicly held company owns 10% or more of its stock.

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PETITION FOR A WRIT OF CERTIORARI

OPINIONS BELOW

The unpublished opinion of the court of appeals (App. 1-19) is reported at 300 Fed. App'x 893. The order denying rehearing and rehearing en banc (App. 43-44) is unpublished. The opinion of the district court (App. 20-32) is reported at 500 F. Supp. 2d 1192.

JURISDICTION

The court of appeals' judgment was entered on November 19, 2008. Petitioners filed a timely petition for rehearing and rehearing en banc. The petition was denied on December 30, 2008. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTE INVOLVED

The statute involved in this petition is 35 U.S.C. § 103(a), which provides that a patent may not issue for an invention that would have been obvious to a person of ordinary skill in the art:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

> ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

STATEMENT

This case is a candidate for summary disposition under this Court's Rule 16.1 because the factual record is undisputed and every legal reason that the Federal Circuit offered for vacating the district court's grant of summary judgment of obviousness directly conflicts with this Court's decision in *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398 (2007). Because of the Federal Circuit's unique role in resolving appeals involving patent law, 28 U.S.C. § 1295(a)(1), the Court's grant of review in this case will affect every patent case in the United States in which obviousness is asserted.

A. This Court's Obviousness Law

In 2006, this Court granted review in *KSR* to "reject[ ] the rigid approach of the Court of Appeals" to patent law's obviousness doctrine, to reiterate the Court's own "expansive and flexible approach," and to restore the proper role of summary judgment in resolving obviousness challenges. 550 U.S. at 415.

Obviousness "is a legal determination," *id.* at 427, that rests on underlying issues of objective fact. In *Graham* v. *John Deere Co. of Kansas City*, 383 U.S.

1 (1966), the Court identified three primary factors that courts must assess to determine whether an invention was obvious at the time it was made: "the scope and content of the prior art," the "differences between the prior art and the claims at issue," and "the level of ordinary skill in the pertinent art." *Id.* at 17. Courts may also consider, if present, "commercial success, long felt but unsolved needs, [and] failure of others" to "give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Id.* at 17-18.

Through the years, this Court has repeatedly cautioned that inventions made from a combination of existing prior art are particularly likely to present questions of obviousness. As the Court has warned, granting patents "to advances that would occur in the ordinary course without real innovation retards progress," *KSR*, 550 U.S. at 419, by "withdraw[ing] what is already known into the field of [the patent's] monopoly and diminish[ing] the resources available to skillful men." *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, 152-53 (1950). Thus, in *Great Atlantic*, the Court held that a "patent for a combination which only unites old elements with no change in their respective functions" is invalid as obvious. Similarly, in *Sakraida* v. *Ag Pro, Inc.*, 425 U.S. 273, 282 (1976), the Court held that a patent which "simply arranges old elements with each performing the same function it had been known to perform" and produces no unexpected results is invalid as obvious.

Beginning in the 1980s, however, the Federal Circuit took a sharply different approach to combination patents. It established a rule that a patent claim for a combination of prior art could be proved obvious only if "some motivation or suggestion to combine the prior art teachings" was expressly contained in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art. *See KSR*, 550 U.S. at 407 (*citing Al-Site Corp.* v. *VSI Int'l, Inc.*, 174 F.3d 1308, 1323-24 (CAFed 1999)).

This Court expressly "reject[ed] the rigid approach of the Court of Appeals" to obviousness in its decision in *KSR*. *Id.* at 415. The Court instructed that the objective analysis outlined in its *Graham* decision "continue[s] to define the inquiry that controls." *Id.* at 407. And it reiterated its warning that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416.

To correct the course of obviousness law, the Court identified several specific "errors" in the Federal Circuit's obviousness analysis and announced the correct rules for the Federal Circuit to follow. First, the Court held that courts "*need not* seek out precise teachings directed to the specific subject matter of the challenged claim" in determining whether it would be obvious to combine items of the prior art to make a claimed invention. 550 U.S. at 418 (emphasis added). "Under the correct analysis," the Court held, "any need or problem known in the field of endeavor at the time of invention and addressed by the patent can

provide a reason for combining the elements in the manner claimed," *id.* at 420, because courts "can take account of the inferences and creative steps that a person of ordinary skill in the art would employ," *id.* at 418. Second, the Court held it an "error" to assume "that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem." *Id.* at 420. Instead, "[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes." *Ibid.* Third, the Court held that, in assessing obviousness, what matters is not the subjective motivation of the patentee, but instead "the objective reach of the claim. If the claim extends to what is obvious it is invalid under § 103." *Id.* at 419.

Finally, the Court expressly "disagree[d]" with the Federal Circuit's reluctance to grant summary judgment on obviousness challenges. *Id.* at 427. Because "[t]he ultimate judgment of obviousness is a legal determination," the Court held, it may properly be decided on summary judgment. *Ibid.* In particular, "where . . . the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate." *Ibid.*

B. The Claimed Invention.

The patent at issue, U.S. Patent No. 6,880,612 (the '612 Patent), is reprinted in full in Volume 2 of

the Appendix, App. II-1 through App. II-34. The '612 Patent claims a "reduced visibility insect screen" that it is conceded could have been made at the time simply by taking commercially available wire mesh, painting it black, and placing it in a frame in a door or window.

Respondent Andersen asserts eight claims of the '612 Patent against Petitioners Pella and Gore: 22-24, 27-28, 59, 65, and 76. Representative Claim 22 defines the invention as follows:

> An insect screening material in a fenestration unit [*e.g.*, a door or window] that permits ventilation therethrough having reduced visibility, comprising a plurality of screen elements having a diameter of 0.007 inch or less, the screen elements having a tensile strength greater than 5500 psi, wherein the screening has a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

App. II-32, Claim 22. The district court construed "insect screening" to mean simply "a mesh of thin linear elements permitting ventilation while excluding insects" (App. 41), and Andersen did not appeal that construction.

C. The Undisputed Record On The *Graham* Factors.

The factual record is undisputed on all three of the objective factors that underlie the obviousness inquiry set by *Graham*, 383 U.S. at 17.

1. Scope and content of the prior art. The prior art in this case is a wire mesh screen made by a supplier named TWP, Inc. Andersen cited the TWP screen as prior art to the United States Patent & Trademark Office in the application for the '612 Patent, and the patent examiner relied on the TWP screen as prior art. App. II-2, JA00188.[1] The screen was described on TWP's website as an "'optical grade' precision stainless steel mesh[]" that had "high transparency." App. II-35. It was advertised as useful for applications that required people to be able to see through the screen, such as in "shielded windows and cathode ray tubes (CRT's)." App. II-35. In addition, the website printed the technical specifications of the screen in a chart titled "High Transparency Wire Mesh Data," which showed that the screen had 50 strands of wire per inch, a wire diameter of 0.0012 inches, a grid size of 0.0188 inches, and an open area of 88% (App. II-35) – all characteristics that fall within the dimension ranges claimed by the '612 Patent.

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[1] Because this case presents a candidate for summary disposition, Petitioners include factual citations, which refer to the Joint Appendix in the Court of Appeals.

2. Differences between the prior art and the claimed invention. It is undisputed that only three differences separate the unmodified stainless steel screen advertised on TWP's website and the insect screen claimed by the '612 Patent: (1) placement in a frame in a window or door; (2) a reflectance value of 0.04 or less; and (3) bonding of the screen elements at their intersections. App. 8, 26.

It is also undisputed that (a) painting the TWP screen black to reduce its reflectance and bond its wire elements at their intersections and (b) placing it in a frame in a door or window eliminates all of the differences and results in an insect screen that falls within the asserted claims of the '612 Patent. App. 27. The '612 Patent itself lists five variations of darkened TWP screen in Table 1 and calls them preferred embodiments of the invention in the accompanying text. App. II-28-29, 31 and Table 1.

Indeed, buying TWP screen off the Internet and painting it black is how Andersen made the claimed "invention." Employees of an Andersen subsidiary ordered a sample of the TWP screen after seeing it on TWP's website. JA04635. When it arrived, they recognized that "you could see almost like through it and it almost wasn't there." JA04636; *see also* JA04680, JA04799. They put a section of the TWP screening into a frame. JA04637. Then, knowing that other insect screens were colored black to reduce reflectance, they painted the TWP screen black. JA04621, JA04637-38, JA04783, JA04798.

3. The Level Of Ordinary Skill In The Art. The parties agreed, for purposes of the summary judgment motion, that a person of ordinary skill in the art was "someone who manufactures insect screens with no understanding of optics and physics." App. 25. This person of ordinary skill concededly would know to place a wire screen in a frame to make an insect screen. Indeed, Andersen's own experts admitted that placing insect screening in a frame in a window or door was "well known" in the industry (JA04463) and a matter of "commonsense" (JA04554-55). The patent examiner likewise stated that "[i]t would have been obvious, if not inherent to place the presently disclosed screen material in a frame." JA00188.

The person of ordinary skill also concededly would know to use black paint and other methods of darkening a screen to reduce the screen's glare and bond its elements, because doing so was commonplace in the insect screen industry. As Andersen's expert testified, "in 2000 in the industry a *known combination* to a person of ordinary skill in the art facing the problem of reducing the visibility of an insect screening would be to increase the open area of the mesh and then paint it black to give it a low reflectance and provide a bond." JA04462-63 (emphasis added); *see also* JA05530-31, JA04621, JA04629-30, JA04783. The '612 Patent itself acknowledged that darkening screens was well known in the industry, stating that existing "products on the market advertise a black or

charcoal colored screen mesh." App. II-25, col. 1:52-56.

D. Proceedings In The PTO And The Lower Courts.

The patent examiner initially rejected Andersen's application for the '612 Patent as obvious based on the TWP screen, declaring that "[i]t would have been obvious, if not inherent to place the presently disclosed screen material in a frame and to further coat it with a [black] color, as suggested by" a prior art patent before the examiner. JA00188. Responding to the rejection, Andersen argued under pre-*KSR* authority that the cited prior art references did not contain the required "teaching or suggestion" to darken the TWP screening to reduce its reflectance. JA00209-10. The examiner then withdrew the objection, agreeing that the prior art did not expressly disclose a teaching to use screening like the TWP screen as an insect screen in windows and doors:

> The prior art does not disclose the screen material which has the structure recited which is used as an insect screen, which is claimed by way of reciting either the screen in combination with the structure of a fenestration unit or building structure or by reciting the method of using the screen material.

JA00269.

Immediately after the '612 Patent issued, Andersen sued its competitor, Petitioner Pella Corporation,

and Pella's supplier, Petitioner W.L. Gore & Associates, Inc., for alleged infringement. Pella's allegedly infringing product[2] is its Vivid View insect screen, which is made from a unique polymer developed by Gore for use in insect screens. JA04632-33, JA07165, JA04661, JA04662. The polymer material allows the screen to bounce back into its original shape after distortion, unlike metal screens in which defects like tearing and denting make the mesh easier to see. JA06833-34, JA06820-23. Although Andersen made only the TWP wire-screen embodiments of its claimed "invention," the claims of the '612 Patent are extremely broad. They make a blanket claim to *every* screen with "elements having a diameter of 0.007 inch or less, the screen elements having a tensile strength greater than 5500 psi," where "the screening has a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less" – regardless of what material the screen is made of. App. II-32, Claim 22.

Pella and Gore first moved for summary judgment of obviousness before this Court issued its decision in *KSR*. Bound by the Federal Circuit's precedent, the district court denied the motion. App. 23. After *KSR* issued, however, Pella and Gore moved to reopen summary judgment, and the district court agreed to accept supplemental briefing. After hearing

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[2] The issue of infringement is disputed, and neither party moved for summary judgment on the issue.

argument, the district court applied *KSR* and granted summary judgment holding the asserted claims of the '612 Patent invalid as obvious. App. 32.

The district court assessed the three primary factors set by this Court in *Graham* v. *John Deere Co. of Kansas City*, 383 U.S. 1 (1966), and determined that there were no disputed material issues of fact affecting any of the factors. Regarding the scope and content of the prior art, the district court found that "TWP has been available on the internet, and was in use well before the application for the patent in suit. As such, this material is a major portion of, and was cited as, prior art in the patent's application." App. 25-26. On the second factor, the district court found that, as described above, three differences separated the claimed invention from "the TWP material itself: reflectance value, bonding, and placement in a window frame," and that painting the screen black and framing it eliminated those differences. App. 26. Finally, the court found that "the parties agree that one of ordinary skill in the pertinent art is someone who manufactures insect screens with no understanding of optics and physics." App. 25.

Applying this Court's principle that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results," App. 26 (quoting *KSR*, 550 U.S. at 416), the district court held the claimed insect screen obvious. As this Court did in *KSR*, the district court held that the claimed invention was so clearly obvious based on the three primary *Graham*

factors that Andersen's arguments based on secondary considerations such as alleged copying, long-felt need, and commercial success did not create an issue of fact precluding summary judgment. App. 31.

The Court of Appeals for the Federal Circuit, however, vacated the grant of summary judgment. The Federal Circuit agreed "with the district court that Andersen failed to raise a genuine issue of material fact as to two of the [*Graham*] factors: the differences between the prior art and the claimed invention and the level of skill in the art." App. 8. The court concluded, however, that "there exist genuine issues of material fact as to whether one of skill in the art would have looked to the prior art upon which the district court based its grant of summary judgment of obviousness [*i.e.*, the TWP screen]." App. 2-3.

To support its decision, the Federal Circuit relied on the fact that the TWP mesh had been advertised for use as electromagnetic shielding but not as insect screening. App. 9-10. The court failed to discuss the undisputed fact that the TWP mesh was by definition "insect screening" as that claim term was construed by the District Court. *See* App. 41 (construing "insect screening" as a "mesh of thin linear elements permitting ventilation while excluding insects").

The Federal Circuit also relied on three characteristics of the TWP screen that, in its view, taught away from combining the screen with black paint and a frame to make an insect screen. First, without acknowledging that the TWP screen's tensile strength

was nearly 30 times greater than the tensile strength claimed by the '612 Patent, the court doubted whether the TWP screen was durable enough to be considered for use as an insect screen by a person of ordinary skill in the art. App. 11-12. Second, without acknowledging that the unmodified TWP screen transmitted light better than the '612 Patent's claims required and reflected light approximately the same as they required, the court doubted whether the TWP screen was transparent enough to be considered by one of ordinary skill. App. 12. Finally, without acknowledging that the '612 Patent claims contained no cost limitations, the court found an issue of fact whether the TWP mesh was too expensive to be considered by one of ordinary skill. App. 12-13.

REASONS FOR GRANTING THE PETITION

This case is a candidate for summary disposition under this Court's Rule 16.1 because the factual record is undisputed and the legal reasons the Federal Circuit offered for vacating the district court's grant of summary judgment directly conflict with this Court's decision in *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398 (2007).

First, the Federal Circuit's reliance on "[t]he fact that TWP's use for the mesh was electromagnetic shielding" instead of insect screening (App. 11), directly conflicts with this Court's ruling that it is an "error" to assume "that a person of ordinary skill

attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem." *KSR*, 550 U.S. at 420.

Second, the Federal Circuit's reliance on three limitations that the '612 Patent does not claim – "durability, transparency, and price feasibility," (App. 13) – directly conflicts with this Court's ruling that what "matters is the objective reach of the claim. If the claim extends to what is obvious it is invalid under § 103." *KSR*, 550 U.S. at 419.

Third, the Federal Circuit's conclusion that a fact question exists because the website description of the TWP screen as "highly transparent" did "not specify that the mesh was highly transparent *relative to insect screens*" (App. 12 (emphasis added)), directly conflicts with this Court's express holding that the obviousness analysis "*need not* seek out precise teachings directed to the specific subject matter of the challenged claim." *KSR*, 550 U.S. at 418 (emphasis added).

This Court issued *KSR* for the express purpose of correcting the Federal Circuit's erroneous approach to determining obviousness. Yet the decision below repeats the very same errors that *KSR* corrected. The Court should summarily reverse the decision below, or else grant review on the merits, to enforce *KSR* and ensure that the principles of obviousness law that *KSR* established will be applied by the Federal Circuit. *See, e.g., Major League Baseball Players Ass'n*

v. *Garvey*, 532 U.S. 504 (2001) (summarily reversing decision below).

I. The Decision Below Conflicts With This Court's Decision In *KSR*.

Every legal reason offered by the decision below to vacate the district court's grant of summary judgment of obviousness conflicts with this Court's ruling in *KSR*.

A. In conflict with *KSR*, the decision below holds that the use of prior art for one purpose creates an issue of fact whether it is obvious to use the prior art for another purpose.

First, the Federal Circuit's decision conflicts with this Court's holding in *KSR* that it is "error" to assume "that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem." 550 U.S. at 420.

The Federal Circuit's decision cites this Court's holding (App. 10), then rules directly counter to it, concluding that "[t]he fact that TWP's use for the mesh was electromagnetic shielding and that TWP, a company that manufactures insect screens, did not employ this particular mesh as an insect screen," creates an issue of fact precluding summary judgment. App. 11. This is a clear error of law under *KSR*, which holds that "[c]ommon sense teaches . . .

that familiar items may have obvious uses beyond their primary purposes," *id.*, and "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one." *Id.* at 417. Here, common sense taught that a wire screen that was, concededly, "insect screening" under the District Court's unappealed claim construction and that was also advertised as highly transparent was an obvious starting point for making a reduced visibility insect screen.

B. In conflict with *KSR*, the decision below relies on unclaimed limitations to distinguish the prior art.

The Federal Circuit's conclusion that issues of fact exist based on "durability," "transparency," and "pricing" limitations that the '612 Patent does not claim is clear error and directly conflicts not only with *KSR* but also with the Federal Circuit's own decisions.

It is blackletter law that a patentee cannot rely on unclaimed features to argue that its invention is novel and thus avoid a ruling of obviousness. In assessing obviousness, all that "matters is the objective reach of the claim." *KSR*, 550 U.S. at 419. Drafting claims broadly, as Andersen did, forces the patentee to defend broadly. If the claim as drafted includes *anything* that is obvious, "it is invalid under § 103." *Ibid.* This has been the settled law for years,

both in this Court, *see Altoona Publix Theatres* v. *American Tri-Ergon Corp.*, 294 U.S. 477, 487 (1935) ("patentability cannot be premised upon structural elements . . . entirely omitted from the claims"), and in each court of appeals to address the issue, *see Charvat* v. *Commissioner of Patents*, 503 F.2d 138, 152-53 (CADC 1974); *Davies-Young Soap Co.* v. *Nu-Pro Mfg. Co.*, 273 F.2d 454, 456 (CA8 1959); *Reinharts, Inc.* v. *Caterpillar Tractor Co.*, 85 F.2d 628, 633 (CA9 1936) – including the Federal Circuit itself, *see Sjolund* v. *Musland*, 847 F.2d 1573, 1582 (CAFed 1988) (obviousness inquiry must focus on claims and not import other limitations); *Ormco Corp.* v. *Align Technology, Inc.*, 463 F.3d 1299, 1311-12 (CAFed 2006) (arguments based on unclaimed features are immaterial to the obviousness inquiry).

Here, it is undisputed that the extraordinarily broad claims of the '612 Patent covered a material with the durability, transparency, and cost of the TWP screen.

It is undisputed first of all that the TWP screen met the only durability requirement claimed by the '612 Patent. The '612 Patent required a tensile strength for the screen elements of 5500 pounds per square inch (psi) (App. II-32, claim 22; App. II-34, claim 76), and the TWP screen had a tensile strength of 162,000 psi – nearly 30 times greater than the requirement. App. II-29, col. 10:65-67. The Federal Circuit thus clearly erred in finding an issue of fact precluding summary judgment based on durability.

With "transparency," just as with durability, the Federal Circuit's decision clearly erred by relying on a limitation that does not appear in the '612 Patent's claims. The claims of the '612 Patent include three limitations related to transparency: element size, proportion of light transmitted, and proportion of light reflected. It is undisputed that, even before the prior art TWP screen was painted black, it met the first two limitations and nearly met the third. First, the TWP screen's elements were only 0.0012 inch in diameter (App. II-35), well within the Patent's claim of "screen elements having a diameter of 0.007 inch or less" (App. II-32, claim 22). Second, the TWP screen had a light transmittance value of 0.897 (App. II-28, Table 1, sample 6) – well within the Patent's claim of "transmittance of light of at least 0.75" (App. II-32, claim 22). Finally, the TWP screen had a light reflectance value of only 0.044 (App. II-28, Table 1, sample 6) – scarcely outside the "reflectance of light of 0.04 or less" that the '612 Patent claims (App. II-32, claim 22). The concededly obvious step of darkening the TWP screen brought it within the reflectance limitation of the '612 Patent. App. II-28, Table 1, samples 1-5.

The Federal Circuit's decision does not discuss these undisputed facts. Instead, it relies on the prior art Sims Patent, U.S. Patent No. 5,012,041, issued in 1991, saying that Sims created an issue of fact by teaching that a screen whose wires were closely spaced could produce "optical interference, not invisibility." App. 12; JA06365. The '612 Patent, however,

does not limit how closely the wires can be spaced. Its only limitation regarding wire spacing is that they not be spaced too widely (App. II-32, claim 24 (requiring mesh openings "not greater than 0.06 inches")) so that insects do not get through. The wire spacing of the TWP screen satisfies that limitation, and the Federal Circuit erred in creating a different limitation.

The Federal Circuit's decision also directly conflicts with *KSR* by relying on the lack of an express teaching that the TWP screen would be more transparent than existing insect screens in denying summary judgment of obviousness. App. 12 (commenting that the website "does not specify that the mesh was highly transparent *relative to insect screens*") (emphasis added). The whole purpose of this Court's ruling in *KSR* was to clarify that the obviousness analysis "*need not* seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." 550 U.S. at 418 (emphasis added). The decision below is based on a clear legal error.

Finally, on the issue of cost, the Court of Appeals disregarded both *KSR* and its own long-standing precedent when it held that the relatively high cost of the TWP screen taught away from its use an insect screen. Cost does not appear as a limitation in the claims of the '612 Patent. Moreover, it is technical challenge, not business factors such as cost, that drives the obviousness inquiry, as the Federal Circuit

recently affirmed. *Friskit, Inc.* v. *RealNetworks, Inc.*, 2009 WL 59182, at *6 (CAFed Jan. 12, 2009). In *KSR*, this Court expressly rejected the argument that the "expens[e]" of a piece of prior art defeated summary judgment of obviousness by teaching away from its use. 550 U.S. at 425. The Federal Circuit has also repeatedly held that economic viability is not material to the obviousness determination. *In re Farrenkpof*, 713 F.2d 714, 718 (CAFed 1983) ("[t]hat a given combination would not be made by businessmen for economic reasons" is irrelevant to obviousness); *Orthopedic Equipment Co.* v. *United States*, 702 F.2d 1005, 1013 (CAFed 1983); *see also id.* at 1015 (Nies, J., concurring). By relying on the cost of the TWP screen to create an issue of fact regarding the scope of the prior art, the Federal Circuit's decision directly conflicts with this Court's precedent and its own controlling decisions.

II. The Same Need To Reform The Federal Circuit's Approach To Obviousness That Supported Review In *KSR* Compels Review Here, And This Case Is A Good Vehicle For Addressing The Issue.

For several reasons, this case presents an ideal factual vehicle for demonstrating the correct application of *KSR* to resolve a question of obviousness at summary judgment.

First, the Federal Circuit's failure to apply *KSR* is outcome determinative of summary judgment. The

district court, applying the Federal Circuit's pre-*KSR* approach, initially denied summary judgment. After *KSR* issued, it reconsidered and granted summary judgment. The Federal Circuit, reverting to the erroneous approach rejected in *KSR*, vacated the grant of summary judgment. This procedural history makes it plain that applying *KSR* is the sole difference between granting summary judgment of obviousness and denying it.

Second, the facts of this case present an ideal vehicle for the Court to apply *KSR*. The material facts are undisputed and the insect screen claimed by the '612 Patent presents what *KSR* described as the plainest case of obviousness: "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." 550 U.S. at 417. For a person starting with an existing, darkened insect screen, all the '612 Patent did was substitute one commercially available wire screen (the TWP screen) for another. Alternatively, for a person starting with the TWP screen, all the '612 Patent did was apply the known techniques of painting the screen and placing it in a frame. Nothing about making the combination was technically difficult, and the combination produced no unexpected result. If this simplest of inventions cannot be held obvious on summary judgment, *KSR* was decided for naught.

Third, this case presents the opportunity for the Court to clarify that the same analysis *KSR* established for determining whether a person of ordinary

skill would be motivated to combine certain items of prior art to make an invention also applies to determine whether a person of ordinary skill would consider the prior art in the first instance. An item of prior art falls within the scope of the relevant prior art for obviousness if it is either "in the field of the applicant's endeavor or, if not, then [is] reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446 (CAFed 1992). Before *KSR*, the Federal Circuit linked the test for determining the scope of the relevant prior art to its teaching-suggestion-motivation test for determining the ultimate question of obviousness. The Federal Circuit stated that the analogous art test "begins the inquiry into whether a skilled artisan would have been motivated to combine references by defining the prior art relevant for the obviousness determination," and "[t]he motivation-suggestion-teaching test picks up where the analogous art test leaves off and informs the *Graham* analysis." *In re Kahn*, 441 F.3d 977, 987 and n.3 (CAFed 2006); *see also Alza Corp.* v. *Mylan Labs., Inc.*, 464 F.3d 1286, 1290 (CAFed 2006); *Oetiker*, 977 F.2d at 1446-47 (combining the analogous art and TSM tests). When this Court rejected the Federal Circuit's "rigid approach" to the ultimate obviousness analysis, *KSR*, 550 U.S. at 415, it also foreclosed applying that approach to limit the scope of the relevant prior art that can be considered in the analysis. Granting review in this case would give the Court the opportunity to make that clear.

Fourth, this case will allow the Court to reinforce its holding in KSR that evidence showing flaws in the prior art does not preclude summary judgment unless the prior art is "somehow so flawed that there was no reason to upgrade it." 550 U.S. at 425. Here, of course, there were no flaws in the prior art in relation to the claims of the '612 Patent. *See supra* at I.B. But regardless, it was clear error to deny summary judgment of obviousness on the basis of supposed flaws in "durability, transparency, and price feasibility" (App. 13) without even discussing whether the TWP mesh was so flawed that there was no reason to upgrade it. *See KSR*, 550 U.S. at 425 (rejecting argument that evidence showing the prior art to be "bulky, complex, and expensive" precluded summary judgment). Moreover, since the only modifications necessary to make the TWP screen into the insect screen claimed by the '612 Patent were the known, trivial steps of painting and framing, the Federal Circuit's ultimate holding is clearly erroneous. As a matter of law, the TWP screen was relevant prior art because, "[w]hile the [TWP screen] is not designed specifically for application to the [insect screen] industry many of its characteristics and capabilities are similar to those of respondent's system," *Dann* v. *Johnston*, 425 U.S. 219, 228 (1976), and it is therefore "at the very least [a] pertinent reference[ ]," *Graham*, 383 U.S. at 35.

Finally, there is no need to allow this issue to percolate in the Federal Circuit. The panel made its decision unpublished, indicating that it believes the law is settled. Petitioners sought rehearing en banc,

and it was denied without a single member of the Court of Appeals voting for rehearing. The Federal Circuit either cannot or will not control its own case law. This case is therefore postured exactly as *KSR* was, where the Court granted review of an unpublished decision vacating a grant of summary judgment to correct the law of obviousness. *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398 (2007), *reversing* 119 Fed. Appx. 282 (CAFed 2005). The Court should grant review here as it did there.

CONCLUSION

The petition for a writ of certiorari should be granted.

Dated: March 27, 2009

Respectfully submitted,

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APPENDIX

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App. 1

300 Fed.Appx. 893

United States Court of Appeals,
Federal Circuit.
ANDERSEN CORPORATION,
Plaintiff/Counterclaim Defendant-Appellant,
v.
PELLA CORPORATION, Defendant-Appellee,
and
W.L. Gore & Associates, Inc.,
Defendant/Counterclaimant-Appellee.
No. 2007-1536.

Nov. 19, 2008.
Rehearing and Rehearing
En Banc Denied Dec. 30, 2008.

Appeal from the United States District Court for the District of Minnesota in 05-CV00824, Chief Judge, James M. Rosenbaum.Ronald J. Schutz, Robins, Kaplan, Miller & Ciresi L.L.P., of Minneapolis, MN, argued for plaintiff/counterclaim defendant-appellant. With him on the brief were Ronald J. Schutz, Becky R. Thorson, David P. Swenson, Busola A. Akinwale and Mary E. Kiedrowski.

Aaron D. Van Oort, Faegre & Benson LLP, of Minneapolis, MN, argued for defendant-appellee. With him on the brief were Calvin L. Litsey, James W. Poradek, Chad Drown and Kevin P. Wagner.

Jessica L. Copeland, Morgan & Finnegan LLP, of New York, NY, argued for defendant/counterclaimant-appellee. With her on the brief was Harry C. Marcus.

Before RADER and SCHALL, Circuit Judges, and ALSUP, District Judge.*

DECISION

SCHALL, Circuit Judge.

Andersen Corporation ("Andersen") appeals from the final judgment of the United States District Court for the District of Minnesota which dismissed Andersen's suit against Pella Corporation ("Pella") and W.L. Gore & Associates, Inc. ("Gore") (together "Appellees") for infringement of independent claims 22 and 76 and dependent claims 12, 23-29, 55, 59, and 65 of Andersen's U.S. Patent No. 6,880,612 (the "'612 patent"). The court entered judgment after determining on summary judgment that the asserted claims of the '612 patent were invalid by reason of obviousness. *See Andersen Corp. v. Pella Corp.*, 500 F.Supp.2d 1192 (D.Minn.2007). Andersen also appeals the district court's dismissal without prejudice of Gore's unresolved counterclaim relating to unasserted claims in the '612 patent, arguing that the dismissal should have been with prejudice.

Because we conclude that there exist genuine issues of material fact as to whether one of skill in the art would have looked to the prior art upon which

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* Honorable William Alsup, District Judge, United States District Court for the Northern District of California, sitting by designation.

the district court based its grant of summary judgment of obviousness, we hold that the district court erred in granting summary judgment of invalidity in favor of Pella and Gore. We therefore *vacate* the judgment dismissing Andersen's complaint and *remand* the case to the district court for further proceedings. We *affirm*, however, the district court's dismissal without prejudice of Gore's counterclaim.

DISCUSSION

I.

The '612 patent claims a reduced visibility insect screen. Conventional insect screens typically consist of thick wires or fibers woven in a grid pattern. Such screens obstruct the view through the windows and doors in which they are installed. The screen claimed in the '612 patent comprises fine, thin wires woven tightly together. The result is a screen more transparent than conventional insect screens. An exemplary claim from the '612 patent is independent claim 76:

> An insect screening material in a frame removably attached to a fenestration unit that permits ventilation therethrough and having reduced visibility, comprising a plurality of screen elements having a diameter of 0.007 inch or less, the screen elements having a tensile strength greater than 5500 psi, wherein the screening has a transmittance of

> light of at least 0.75 and a reflectance of light of .04 or less.

'612 patent, col. 19 l.3-9.

The accused device, a reduced visibility insect screen made by Pella, is sold under the name VividView®. Andersen sued Pella and its supplier Gore alleging that the VividView® device infringes the '612 patent. Gore and Pella asserted affirmative defenses of invalidity and unenforceability, while Gore asserted a counterclaim that each of the claims of the '612 patent is invalid. During discovery, Andersen identified the claims that Pella and Gore allegedly infringed as claims 12, 22-29, 55, 59, 65, and 76. Gore and Pella jointly moved for summary judgment, challenging the validity of the asserted claims of the '612 patent. For its part, Andersen moved for summary judgment on the defenses of Gore and Pella and also on Gore's counterclaim of invalidity. By a September 28, 2008 order, the district court denied all motions for summary judgment.

Just weeks before the scheduled date of trial, Gore and Pella moved to re-open their motions for summary judgment in light of the United States Supreme Court's discussion of the obviousness standard in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 127 S.Ct. 1727, 167 L.Ed.2d 705 (2007). In *KSR*, the Supreme Court reversed our reversal of the district court's grant of summary judgment of invalidity on the ground of obviousness in favor of KSR. 127 S.Ct. at 1745-46. According to the Court, we applied

too rigidly the requirement that an obviousness challenge demonstrate a teaching, suggestion, and motivation to combine known elements (the "TSM test") and failed to give due weight to the nature of the problem to be solved and common sense. *Id.* at 1741-43.

Taking into consideration *KSR*, the district court granted Gore and Pella's motion to re-open the motions for summary judgment on the limited issue of obviousness, and the court requested further briefing from the parties. In their briefs and at oral argument before the district court, Gore and Pella asserted that the invention claimed in the '612 patent was rendered obvious by an electromagnetic-shielding mesh manufactured by TWP, Inc. ("TWP") in combination with Japanese Patent No. 195646, disclosing a method of coating a screen with light absorbable black color to reduce reflection. These two references were the basis of an obviousness rejection of Andersen's patent application by the United States Patent and Trademark Office ("PTO"). Eventually, however, the application issued as the '612 patent after Andersen overcame the rejection by amending its claims to include the limitation "in a fenestration unit that permits ventilation there through."

Applying the test for obviousness under 35 U.S.C. § 103(a), the district court began with an analysis of the primary obviousness factors delineated in *Graham v. Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966):(1) scope and content of the prior art, (2) the differences between the prior

art and claimed invention, and (3) the level of ordinary skill in the art. *Andersen,* 500 F.Supp.2d at 1195-97. Since the court found that the defendants had made out a prima facie showing of obviousness under these primary factors, it then weighed the secondary considerations of nonobviousness discussed in *Graham,* 383 U.S. at 17-18, 86 S.Ct. 684 including commercial success, long felt but unmet need, and failure of others. *Andersen,* 500 F.Supp.2d at 1197-98. Under the direction of *KSR,* the court rejected "a 'rigid approach,' in favor of an 'expansive and flexible approach' using 'common sense' when assessing whether an invention would have been obvious to a person of ordinary skill in the art." *Andersen,* 500 F.Supp.2d at 1195 (quoting *KSR,* 127 S.Ct. at 1739, 1742-43).

In due course, the district court granted Appellees' motion for summary judgment, holding the asserted claims of Andersen's '612 patent obvious and the patent invalid as a matter of law. *Id.* at 1198. In its discussion of obviousness, the court asked, "[W]ould an insect screen manufacturer of ordinary skill have found it obvious to use the TWP screening material, decrease its reflectance value, bond it, and place it in a window frame?," to which it responded, "The answer, plain and simple is 'Yes.'" *Id.* at 1195. In arriving at this conclusion, the court found that the "heart of Andersen's claimed invention" was the TWP mesh, which had been available on the internet and in use prior to submission of Andersen's patent application, and that it was a "simple act of common sense

– rather than of invention – for an insect screen designer of ordinary skill to look [to it]." *Id.* at 1195-96. The court then considered secondary factors, only to find that they could not rebut the strong prima facie showing of obviousness. *Id.* at 1197.

Andersen filed a Notice of Appeal within 30 days of the summary judgment ruling. However, Gore's pending declaratory judgment counterclaim of invalidity relating to no-longer-asserted claims of the '612 patent prevented the district court's judgment from being final. Gore therefore moved to dismiss its counterclaim without prejudice. Andersen moved to dismiss its own appeal before the district court decided Gore's motion to dismiss. On November 25, 2007, this court denied Andersen's motion to dismiss its own appeal and stayed briefing until the district court addressed Gore's pending motion. On February 21, 2008, the district court granted Gore's motion to dismiss its counterclaim without prejudice, and the parties proceeded to brief their cases on appeal to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1) (2006).

II.

We "review the grant of summary judgment de novo, drawing all reasonable inferences in favor of the non-moving party." *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1323 (Fed.Cir.2002) (citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986)). Summary

judgment is appropriate "where there is no genuine issue of material fact and the movant is entitled to judgment as a matter of law." *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1116 (Fed.Cir.1985) (en banc).

Andersen argues that the district court erred in granting summary judgment of invalidity by reason of obviousness because it raised genuine issues of material fact with respect to whether one of ordinary skill in the art (here, "someone who manufactures insect screens with no understanding of optics and physics," *Andersen,* 500 F.Supp.2d at 1195) seeking to design an insect screen with reduced visibility would have looked to the TWP mesh. Appellees respond that the district court correctly granted summary judgment in their favor because it would have been obvious to an ordinarily skilled artisan to select TWP mesh – a commercially available highly transparent screening material – as a material appropriate for a reduced visibility insect screen.

We agree with Andersen that genuine issues of material fact exist as to whether it would have been obvious to an insect screen designer of ordinary skill to use the TWP mesh as screening material for a reduced visibility insect screen. We begin, as the district court did, by looking at evidence relating to the primary obviousness factors. We agree with the district court that Andersen failed to raise a genuine issue of material fact as to two of the factors: the differences between the prior art and the claimed invention and the level of skill in the art. We do not

agree, however, with the district court's finding that no genuine issue of material fact exists as to the scope and content of the prior art.

Upon our review of the record in the light most favorable to Andersen, we find support adequate to overcome summary judgment on the question of whether the TWP mesh was outside the scope and content of the prior art. Andersen put forth evidence in the record that, one, the TWP mesh was not part of the insect screen manufacturing field, and, two, an insect screen manufacturer would have read the prior art to teach away from using a mesh with the characteristics possessed by the TWP mesh. This field-of-invention and teaching-away evidence, combined with the deference owed to the PTO's issuance of this patent after reviewing the same prior art references that form the basis of this obviousness challenge, raises a genuine issue of material fact as to whether an ordinarily skilled insect screen designer would have found the combination of the TWP mesh with the other prior art references obvious.

Andersen submitted the TWP website as evidence that the TWP mesh used by Andersen was beyond the field of invention. The TWP website posted links to separate webpages for "Technical Information" pertaining to, among other things, an "Insect screen" and a "High Transparency" screen. The TWP mesh used by Andersen was found, not under the "Insect Screen" link, but under the "High Transparency" screen link. The "High Transparency" webpage described the use of these "optical grade"

meshes as electromagnetic shielding in shielded windows and cathode ray tubes (CRTs). In contrast, the "Insect Screen" webpage noted the "wide range of industrial and commercial applications" available for insect screening and did not include electromagnetic-shielding meshes.

The district court was not persuaded that the advertised use of the TWP mesh removed it from the field of invention. It correctly observed that the TWP mesh's "advertised use [as] electromagnetic shielding . . . does not mean it was not available for other uses." *Andersen,* 500 F.Supp.2d at 1196. Indeed, as the district court noted, *KSR* teaches that common sense might make alternative uses of familiar items obvious and that design incentives and other market forces can prompt variations of a work. *See id.*(citing *KSR,* 127 S.Ct. at 1740, 1742). The court found that common sense and the nature of the problem to be solved would have made it obvious to use the TWP electromagnetic-shielding mesh as an insect screen. *Id.*

While we agree that common sense and the nature of the problem to be solved could lead an insect screen designer to a mesh primarily used for a purpose besides insect screens, we find that in this case Andersen raised a genuine issue of fact as to whether the electromagnetic-shielding mesh would have been part of the field of invention searched by an insect screen designer and whether such an alternative use would have been obvious. *See Para-Ordnance Mfg., Inc. v. SGS Imps. Int'l, Inc.,* 73 F.3d 1085, 1088 (Fed.Cir.1995) ("[W]hether [the prior art]

teaches toward or away from the claimed invention also is a determination of fact."). The fact that TWP's use for the mesh was electromagnetic shielding and that TWP, a company that manufactures insect screens, did not employ this particular mesh as an insect screen suggests that common sense and the nature of the problem to be solved might not have made it obvious to an insect screen designer to try using the mesh as an insect screen.

Andersen also submitted into the record prior art references that taught away from using the TWP mesh as an insect screen. Several prior art references in the record teach that the TWP mesh possessed many characteristics that an ordinary skilled insect screen designer would have viewed as undesirable for an insect screen. Specifically, the record at least raises the question of whether the TWP mesh lacked the durability, transparency, and price feasibility preferred by an insect screen manufacturer designing a reduced visibility insect screen.

Andersen submitted evidence that durability is a desirable characteristic of insect screens because they experience wear and tear from exposure to daily weather conditions and interactions with humans and pets. Appellant's Br. at 36-37. In that regard, the TWP website called the electromagnetic-shielding mesh used by Andersen the "world's most delicate metal fabric" and specified that it requires "great care in handling." The Sims Patent, a prior art reference also before the PTO examiner, teaches that fine mesh should only be removed from the glass panes if it will

not be subject to accidental damage and contact. U.S. Patent No. 5,012,041, col.3 l.51-56 (filed Jun. 22, 1989). According to Andersen, the delicacy of the TWP mesh, its need for special care, and its vulnerability to damage upon contact could discourage an insect screen designer from using it.

Andersen also presented evidence that using TWP mesh in an insect screen would not, relative to conventional screens, heighten its transparency – the main objective of the invention. Appellant's Br. at 38-39. Andersen cites the Sims Patent for its teaching that fine mesh produces optical interference, not invisibility, due to the "distracting effects if . . . the wire grid is too fine." *Id.*, col.1 l.48-53. Evidence that the TWP mesh used by Andersen qualifies as a fine mesh that might be shiny according to the Sims Patent comes from the TWP website, which describes the wire comprising the mesh as "many times finer than a single strand of human hair." This evidence is somewhat contradicted by the fact that the TWP website also advertises this mesh as "highly transparent," but that description does not specify that the mesh was highly transparent relative to insect screens. Given the evidence, a person of ordinary skill in the insect screen art arguably would not think that increasing the number of wires in combination with decreasing the diameters of the wires would yield an insect screen with reduced visibility.

As to the third characteristic, pricing, Andersen's expert, Laurence Armstrong, stated that the TWP mesh was "extraordinarily expensive in comparison

with traditional insect screen material, costing about $75.00 per square foot." It is not unreasonable to suggest that a significant difference in cost could discourage an insect screen designer from using the more expensive mesh.

The district court, however, was not persuaded that this teaching-away evidence presented a genuine issue of material fact. The court acknowledged that the Supreme Court in *KSR* approvingly cited *United States v. Adams,* 383 U.S. 39, 51-52, 86 S.Ct. 708, 15 L.Ed.2d 572 (1966), for the "principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." 127 S.Ct. at 1739-40. The district court, however, found Andersen's evidence of teaching away "disingenuous" in the face of the TWP website's reference to the screen as "highly transparent" and capable of use in "shielded windows." *Andersen,* 500 F.Supp.2d at 1196. In essence, the district court found that the teaching toward evidence outweighed the teaching-away evidence in the record.

We disagree with the district court in its evaluation of the teaching-away evidence. On the whole, we think, the record creates a genuine issue of material fact as to whether the durability, transparency, and pricing of the TWP mesh would have discouraged an ordinarily skilled artisan from incorporating the mesh into an insect screen. Recognizing that the Supreme Court in *KSR* cautioned us to not be too rigid in applying the TSM test, we may still consider

evidence of teachings to combine (and, presumably, not to combine) because, according to the Supreme Court, they "capture[ ] a helpful insight" into the obviousness inquiry. 127 S.Ct. at 1741. Unlike in *KSR* where the Supreme Court concluded that "Teleflex ha[d] not shown anything in the prior art that taught away from the [combination of prior art references]," Andersen has raised a genuine issue of material fact as to whether the prior art taught away from using TWP mesh as an insect screen. *Id.* at 1745.

We also note that, in ruling on summary judgment, the district court was required to view the evidence with an eye towards the burden on Gore and Pella to overcome the deference due to the PTO. As "[t]he Supreme Court stated in *Anderson,* . . . 'in ruling on a motion for summary judgment, the judge must view the evidence presented through the prism of the substantive evidentiary burden.'" *Enzo Biochem, Inc. v. Gen-Probe Inc.,* 424 F.3d 1276, 1284 (Fed.Cir.2005) (quoting *Anderson,* 477 U.S. at 254, 106 S.Ct. 2505). As we have explained, the PTO examiner's issuance of the patent is entitled to deference:

> When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the

> references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.

PowerOasis, Inc. v. T-Mobile USA, Inc., 522 F.3d 1299, 1304 (Fed.Cir.2008) (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed.Cir.1984)).

In this case, the TWP mesh is one of many references which Andersen submitted to the PTO during prosecution. Indeed, the prosecution history makes clear that the PTO examiner initially denied claims of the patent application as anticipated by the commercially available TWP mesh and obvious in light of the TWP mesh combined with Japanese Patent No. 195646 describing darkening a framed screen door. Andersen overcame those rejections, however, and the PTO provided the following reason for allowance: "The prior art does not disclose the screen material which has the structure recited which is used as an insect screen. . . ." Unlike in *KSR* where the PTO did not consider the prior art reference that ultimately rendered the patent obvious, 127 S.Ct. at 1729, the PTO examiner in this case considered whether the TWP mesh in combination with other references rendered obvious the application that issued as the '612 patent. In evaluating Gore and Pella's joint motion for summary judgment of patent invalidity on the basis of obviousness, the district court needed to consider the additional burden born by Gore and Pella of overcoming the deference owed to the PTO.

Since we find that the record creates a genuine issue of material fact as to whether the '612 patent was obvious under the primary obviousness factors, we need not examine the secondary obviousness factors in any depth. That aside, we note that Andersen submitted evidence of long-felt need, the failure of others, unexpected results, copying by Gore and Pella, and praise by others. The record includes patent applications by Gore explicitly discussing the long-felt need in the industry for an invisible insect screen. That long-felt need was further illustrated by the fact that, at the time of initial summary judgment motions, Gore had submitted several patent applications in the United States on "Insect Screen with Improved Optical Properties." The record also reflects failure of others in that, for decades, Pella and others tried to minimize visibility of insect screens by alternative methods, but failed. As for unexpected results, in its own patent application, Gore acknowledged the "surprising visual effects of the invention" and unexpected results of the narrowly woven mesh. Andersen also presented evidence of praise by others, including by Pella and Gore. The district court noted that the other secondary factor, commercial success, favored Gore and Pella. *See Andersen,* 500 F.Supp.2d at 1197. Even so, Andersen presented evidence suggesting that the majority of secondary considerations favored dislodging an obviousness determination based on the primary obviousness factors.

Review of the record in the light most favorable to Andersen reveals that Andersen provided sufficient

evidence of nonobviousness to overcome summary judgment.

III.

Andersen also argues that the district court abused its discretion when it dismissed Gore's unresolved counterclaim without prejudice under Rule 41(a) of the Federal Rules of Civil Procedures and that the error was not harmless. Rule 41(a)(2) provides that after an answer or motion for summary judgment has been filed, "an action may be dismissed at the plaintiff's request only by court order, on terms that the court considers proper." Fed.R.Civ.P. 41(a)(2). Andersen contends that Gore failed to take any steps to prosecute its counterclaim, to explain its desire to dismiss its counterclaim, and to provide an excuse for waiting to file its motion to dismiss until after the district court granted summary judgment. Appellant's Br. at 58-60. Andersen's alleged prejudice is that Gore avoided an adverse determination on the merits and essentially received a "do-over." Appellant's Br. at 59.

Because dismissal with or without prejudice is a question of procedure, we apply the law of the regional circuit. *See Intel Corp. & Dell Inc. v. Commonwealth Scientific & Indus. Research Org.*, 455 F.3d 1364, 1369 (Fed.Cir.2006). This case arises out of the Eighth Circuit, and the Eighth Circuit reviews a district court's dismissal without prejudice under Rule 41(a)(2) for abuse of discretion. *Paulucci v. City of Duluth*, 826 F.2d 780, 782-83 (8th Cir.1987). To

determine whether to dismiss with or without prejudice, the district court must consider the appropriate factors, including "whether the party has presented a proper explanation for its desire to dismiss; whether a dismissal would result in a waste of judicial time and effort; whether a dismissal will prejudice the defendants; and whether a dismissal is sought merely to escape an adverse decision or to seek a more favorable forum." *Highway Equip. Co. v. FECO, Ltd.*, 469 F.3d 1027, 1034 (Fed.Cir.2006) (applying Eighth Circuit law).

We see no abuse of discretion in the district court's dismissal without prejudice. The court considered the briefs and memoranda submitted by the parties and found that dismissal without prejudice was proper. Upon applying the *Highway Equipment* factors to the record in this case, we find that the court properly exercised its discretion in finding that those factors favored dismissal without prejudice. In the briefs and memorandum, Gore explained that after entry of summary judgment in favor of Appellees on the invalidity of the asserted claims of the '612 patent, it no longer needed the counterclaim as to the unasserted claims. A dismissal of a declaratory judgment counterclaim as to unasserted claims conserves judicial resources. While the motion was presented relatively late in the proceeding (that is, once the district court granted judgment of invalidity on the asserted claims), Gore explained that Andersen continued to narrow the claims throughout the proceedings, and that once the counterclaim

obstructed a timely resolution of the case through immediate appeal, it entered its motion. Most importantly, Andersen presented no evidence of prejudice besides a fear of a second action on the unasserted claims, and "the mere prospect of a second law suit" does not constitute sufficient legal prejudice to defeat a motion to dismiss without prejudice. *New York, C. & St. L.R. Co. v. Vardaman,* 181 F.2d 769, 770 (8th Cir.1950) (quoting *Cone v. W. Va. Pulp & Paper Co.,* 330 U.S. 212, 217, 67 S.Ct. 752, 91 L.Ed. 849 (1947)). The district court did not abuse its discretion in finding that the *Highway Equip.* factors favored a dismissal without prejudice.

In sum, because we conclude that genuine issues of material fact remain as to obviousness, we vacate the judgment entering summary judgment of invalidity in favor of Appellees and dismissing Andersen's complaint. The case is remanded to the district court for further proceedings. We affirm the court's dismissal without prejudice of Gore's counterclaim.

COSTS

Each party shall bear its own costs.

500 F.Supp.2d 1192

United States District Court,
D. Minnesota.
ANDERSEN CORP.
v.
PELLA CORP. and W.L. Gore & Associates, Inc.
No. 05-CV-824 (JRM/FLN).

July 31, 2007.

Becky R. Thorson, Ronald J. Schutz, Busola A. Akinwale, Mary E. Kiedrowski, Robins Kaplan Miller & Ciresi LLP, Minneapolis, MN, Ana D. Johnson, for Andersen Corp.

Calvin L. Litsey, Chad Drown, James W. Poradek, Kevin P. Wagner, Nina Y. Wang, Faegre & Benson, Lori D. Semke, William J. Tipping, Flynn Gaskins & Bennett, Minneapolis, MN, Allan M. Wheatcraft, W.L. Gore & Associates, Inc., Newark, DE, Christopher K. Hu, David H. Pfeffer, Jessica L. Rando, John T. Gallagher, Morgan & Finnegan, New York City, for Pella Corp. and W.L. Gore & Associates, Inc.

ORDER

ROSENBAUM, Chief Judge.

Plaintiff, Andersen Corp. ("Andersen"), accuses defendants Pella Corp. ("Pella") and W.L. Gore & Associates, Inc. ("Gore"), of infringing its patent covering reduced visibility window screens. Defendants reply that Andersen's patent is invalid for

obviousness. The Court agrees, and in light of *KSR Int'l Co. v. Teleflex, Inc.*, ___ U.S. ___, 127 S.Ct. 1727, 167 L.Ed.2d 705 (2007), grants defendants' motion for summary judgment.

I. *Background*

Window screens, which allow air to move while barring insects, are not new inventions. And since there have been window screens, manufacturers have had a continuing interest in making them less visible. Andersen, a window screen manufacturer, assembled a team to design reduced visibility insect screens. During their search for the right material, the team members scoured the internet and came upon the TWP, Inc., website. TWP manufactures a variety of screen/mesh products, some of which it actually advertises as window screens.

Relevant to this case, TWP's website displayed a fine, highly transparent stainless steel mesh (referred to as "TWP"), offered for use as electromagnetic shielding. Members of the Andersen team obtained some of this material, and after painting it black, found it appeared nearly invisible when used as window screening. The idea of putting this fine screen mesh into a fenestration unit – a window or door frame – is the essence of the patent in suit.

Andersen attempted to patent its reduced visibility insect screen, but the Patent Examiner initially denied its application. The Examiner considered Andersen's claims obvious in light of the pre-existing

TWP material, in combination with a Japanese patent disclosing darkening to make screening less visible. Andersen, thereafter, amended its application to include the limitation "in a fenestration unit that permits ventilation there through." With this modification, the U.S. Patent and Trademark Office issued Andersen U.S. Patent No. 6,880,612 ("'612 patent").

Andersen now seeks to prevent Pella and Gore from producing and marketing Pella's Vivid View insect screen, claiming it infringes the '612 patent. In particular, Andersen contends defendants' reduced visibility screen infringes independant claims 22 and 76, and dependant claims 12, 23-29, 55, 59, and 65. Exemplary independent Claim 76 recites:

> An insect screening material in a frame removably attached to a fenestration unit that permits ventilation there through, having a reduced visibility, comprising a plurality of screen elements having a diameter of 0.007 inch or less, the screen elements having a tensile strength greater than 5500 psi, wherein the screening has a transmittance of light of at least .75 and a reflectance of light of .04 or less.[1]

(Def.'s Ex. 1 at 34.) The Court has construed the term "insect screening" in accord with *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 116 S.Ct. 1384,

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[1] Independant claim 22 is nearly identical to claim 76, without the limitation "in a frame removably attached to" a fenestration unit.

134 L.Ed.2d 577 (1996), to mean "a mesh of thin linear elements permitting ventilation while excluding insects." (Claim Construction Order 3, July 7, 2006).

The Court initially entertained cross-motions for summary judgment. These were denied, by Order, dated September 28, 2006. Subsequent thereto, however, the United States Supreme Court decided *KSR Int'l Co. v. Teleflex, Inc.*, ___ U.S. ___, 127 S.Ct. 1727, 167 L.Ed.2d 705, which clarified the standard for determining obviousness in patent litigation.

Citing the *KSR* decision, defendants moved to reopen their summary judgment motion, arguing the '612 patent is invalid as obvious. The Court permitted rebriefing on the question of obviousness in light of *KSR*. After a review of the briefs and further argument, the Court grants defendants' motion for summary judgment.

II. *Analysis*

A. *Summary Judgment Standard*

Summary judgment is appropriate when there are no material facts in dispute and the moving party is entitled to judgment as a matter of law. Fed.R.Civ.P. 56; *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). The party opposing summary judgment may not rest upon the allegations

set forth in its pleadings, but must produce significant probative evidence demonstrating a genuine issue for trial. *See Anderson,* 477 U.S. at 248-49, 106 S.Ct. 2505; *see also Advanced Cardiovascular Sys., Inc. v. SciMed Life Sys., Inc.,* 988 F.2d 1157, 1164 (Fed.Cir.1993). In its recent decision, the Supreme Court stated that, while a finding of obviousness is based on factual findings, "[t]he ultimate judgment of obviousness is a legal determination." *KSR,* 127 S.Ct. at 1745.

B. *Obviousness*

An issued patent is presumed valid under 35 U.S.C. § 282. Thus, the party challenging a patent bears the burden of showing invalidity by clear and convincing evidence. *Kaufman Co., Inc. v. Lantech, Inc.,* 807 F.2d 970, 973 (Fed.Cir.1986). But a patent may not issue if, in light of the prior art, the invention is obvious to one having ordinary skill in the art to which the patent pertains. 35 U.S.C. § 103(a).

When considering whether a patent is obvious, a court must analyze the factors delineated in *Graham v. John Deere Co. of Kansas City,* 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). *KSR,* 127 S.Ct. at 1734. These are: (1) the scope and content of the prior art; (2) the differences between the prior art and claimed invention; and (3) the level of ordinary skill in the art. *Graham,* 383 U.S. at 17-18, 86 S.Ct. 684; *KSR,* 127 S.Ct. at 1734. If defendants establish a prima facie showing of obviousness under these primary factors,

the court then weighs secondary considerations of nonobviousness, such as commercial success, long felt but unmet need, failure of others, and unexpected results. *Id.*; *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311 (Fed.Cir.2006). *KSR* directed courts facing this question to reject a "rigid approach," in favor of an "expansive and flexible approach" using "common sense" when assessing whether an invention would have been obvious to a person of ordinary skill in the art. *KSR*, 127 S.Ct. at 1739, 1742-43.

1. *Primary Obviousness Factors*

Defendants claim the pre-existing TWP screen includes nearly every aspect of the '612 patent's asserted claims, and Andersen's use and modification of the TWP material would have been obvious to one of ordinary skill in the art of insect screen design. For the purposes of this motion, the parties agree that one of ordinary skill in the pertinent art is someone who manufactures insect screens with no understanding of optics and physics.

Window or door screens are, and have been, common consumer goods for many years. The '612 patent's claimed innovation is the simple incorporation of delicate TWP screening into an insect screen frame. This is the heart of Andersen's claimed invention. TWP has been available on the internet, and was in use well before the application for the patent in suit. As such, this material is a major portion of,

and was cited as, prior art in this patent's application.

The issued patent contains only three limitations not found in the TWP material itself: reflectance value, bonding, and placement in a window frame. (Pl.'s Supp. Br. 5.) TWP screening was extensively discussed in the '612 patent specification as the preferred stainless steel embodiment. Given this information, the Patent Examiner initially rejected the application. It was only after the Examiner added the limitation "in a fenestration unit that permits ventilation there through" that the patent issued.[2]

Thus, in the face of an obviousness challenge, the Court considers: would an insect screen manufacturer of ordinary skill have found it obvious to use the TWP screening material, decrease its reflectance value, bond it, and place it in a window frame? The answer, plain and simple is "Yes."

"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR,* 127 S.Ct. at 1739. When one of ordinary skill uses a known technique to improve a device, the use of that technique is obvious when applied to a similar device,

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[2] When the Court considers that this product is part of a window or door screen, the Examiner's added limitation is striking in its triviality. Frankly, the Court cannot conceive of a usable insect screen which does not permit ventilation. This is not, after all, an insect wall.

unless its application is beyond his or her skill. *Id.* at 1740.

The patent's bonding and reflectance limitations are met and accomplished by painting the TWP screen black. This technique was well known in the industry at the time of the invention. Indeed, Andersen does not seem to dispute that painting the material black to decrease the TWP material's reflectance value and bond its wires was obvious. Andersen's own expert testified to this. (Laurence Armstrong Dep., Def.'s Ex. 7 at 24-26).

Andersen ultimately argues that a screen manufacturer of ordinary skill would not think to use TWP screening as an insect screen, and would never dream of putting it in a window frame. Andersen premises its argument on the fact that TWP's previous use had been as electromagnetic shielding, as opposed to insect screening. This argument fails.

"Common sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *KSR* at 1742. "When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or in a different one." *Id.* at 1740.

Andersen, as well as other screen manufacturers, wished to reduce visibility of insect screens. The pursuit continues. As such, it was a simple act of

common sense – rather than of invention – for an insect screen designer of ordinary skill to look beyond the common insect screen materials to find a screening material that was harder to see. For someone seeking such material, a look at a publicly accessible website advertising screening and mesh materials for sale is scarcely an act of inventive genius.

TWP is a fine-mesh metal screen. While its advertised use was electromagnetic shielding, that fact does not mean it was not available for other uses. It had simply not been tried as insect screening. But the fact that this had not been done does not make the effort to do so non-obvious and patent-worthy.

Andersen asks the Court to consider that TWP's fine quality mesh teaches away from its use as an insect screen in a window. It seeks to bolster this argument by quoting *KSR,* 127 S.Ct. at 1740, which noted, "when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." The Court is not persuaded.

The TWP screening was certainly advertised as electromagnetic shielding. But the same website referred to it as a highly transparent screen. TWP was also advertised as capable of use in "shielded windows." It is disingenuous to argue that these references teach away from possible use as reduced visibility screening. The product was made of stainless steel possessing a tensile strength greater than 5500 psi. It is undisputedly a "mesh of thin

linear elements permitting ventilation." (*See* Claim Construction Order 3.) Possessing these qualities, the TWP screen was an obvious candidate for insect screening.

So the Court considers an insect screen designer, ordinarily skilled in the art, looking for reduced visibility screening. He or she types "screen" into a search engine and is directed to a website. Clicking on the website, the ordinarily skilled insect screen designer reads of, and sees, TWP – a commercially available highly transparent screening material. At this point, the Court is constrained to find it obvious that our ordinarily skilled screen designer would attempt to incorporate this material into a window frame.[3]

A person of ordinary skill in the art "is also a person of ordinary creativity, not an automaton." *KSR,* 127 S.Ct. at 1742. Once the screen designer discovered the TWP material, the Court finds it obvious to attempt to place it in a window frame to see if it would actually exclude insects, and being fine gauged, whether it might offer reduced visibility. On

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[3] The parties agree that painting screening material black makes it less visible. This fact is not part of the present invention. Similarly, use of paint as a bonding material was also well known to one of ordinary skill in the art. Finally, the use of material possessing tensile strength of 5500 p.s.i. was also well known. At oral argument, plaintiff's attorney acknowledged that screening material must possess this strength in order to both bar insect access and egress, and give it the strength necessary to permit ordinary consumer use.

these facts, the Court finds defendants have made a strong prima facie showing of obviousness.

2. *Secondary Considerations*

In the face of this prima facie showing, Andersen points to secondary factors such as defendants' long-felt, but unresolved need for reduced visibility screening; the failure of others to develop such screening; and the unexpected results achieved by its invention. Secondary considerations such as these can be "utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham,* 383 U.S. at 17-18, 86 S.Ct. 684.

As an initial matter, the Court cannot credit Andersen's suggestion that Pella's advertisements of its VividView product means anything. The mere fact that a company calls its products "new," or even "revolutionary," is commonplace. The term "virtually invisible" is puffery of the first order. The Court draws nothing from defendants' use of this type of language in their advertisements. Such is the nature of advertising. Boastful phrases in advertisements are aimed at consumers; they prove little or nothing about whether an invention is obvious.

More importantly, *Graham* makes clear that secondary factors are simply one of four factors relevant to obviousness. *Graham,* 383 U.S. at 17-18, 86 S.Ct. 684. Courts are reluctant to allow secondary factors to override a strong determination of obviousness based on primary considerations, even when all

evidence relating to secondary factors is resolved in favor of plaintiff. *See KSR,* 127 S.Ct. at 1745; *Leapfrog Enter. v. Fisher-Price, Inc.,* 485 F.3d 1157, 1162 (Fed.Cir.2007) ("given the strength of the prima facie obviousness showing, the evidence on secondary considerations was inadequate to overcome a final conclusion that [the claim] would have been obvious"); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.,* 464 F.3d 1356, 1371 (Fed.Cir.2006) ("secondary considerations of nonobviousness are insufficient as a matter of law to overcome our conclusion that the evidence *only* supports a legal conclusion that claim 1 would have been obvious") (emphasis in original).

As the Supreme Court in *KSR* stated:

> Where, as here, the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.

127 S.Ct. at 1745-46. The three primary considerations are not in dispute here. The parties agree on the scope of the prior art, the differences between the prior art and claimed invention, and the level of skill in the art. And in light of these undisputed factors, the Court has determined that Andersen's invention was obvious. Even assuming Andersen's contentions regarding the secondary factors are true, the Court's determination of obviousness cannot be rebutted by these secondary factors.

Finally, after all of this discussion of the TWP product, the Court must note that it has never been commercially successful. The invention, of course, is not the product. A validly-issued patent reserves to its owner the right to practice the claimed invention. For purposes of this motion, this "invention" is defined in the metes and bounds of independent claims 22 and 76 of the '612 patent. And it is ultimately here where the patent fails for obviousness: The Court finds it was obvious for one of ordinary skill in the art to attempt to incorporate a fine mesh screening which allowed air to move while blocking out insects into a fenestration unit in an effort to obtain a less-visible screen.

III. *Conclusion*

The claims of plaintiff's patent are obvious; thus, the patent is invalid as a matter of law. Accordingly, IT IS ORDERED that:

1. The Court's Order, dated October 2, 2006, [Docket No. 237] is vacated in part, insofar as it touches defendants' motion.

2. Defendants' motion for summary judgment [Docket No. 181] is granted.

This action is dismissed with prejudice.

LET JUDGMENT BE ENTERED ACCORDINGLY.

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
05-CV-0824(JMR/FLN)

Anderson Corporation	)	
	)	
v.	)	ORDER
	)	
Pella Corporation et al.	)	

On October 19, 2007, defendants filed a motion to dismiss its pending counterclaims without prejudice, pursuant to Rule 41(a)(2) of the Federal Rules of Civil Procedure.

Based on a consideration of the briefs and memoranda, the Court has determined dismissal is proper. Accordingly, defendants' motion [Docket No. 382] is granted.

IT IS SO ORDERED.

Dated: February 21, 2008

s/ James M. Rosenbaum
JAMES M. ROSENBAUM
United States Chief
District Judge

UNITED STATES DISTRICT COURT
District of Minnesota

Anderson Corp.

V.

Pella Corp. and W. L. Gore & Associates, Inc.

JUDGMENT IN A CIVIL CASE

Case Number: 05-824 JMR/FL

☐ **Jury Verdict.** This action came before the Court for a trial by jury. The issues have been tried and the jury has rendered its verdict.

☒ **Decision by Court.** This action came to trial or hearing before the Court. The issues have been tried or heard and a decision has been rendered,

IT IS ORDERED AND ADJUDGED THAT:

1. The Court's Order, dated October 2, 2006, is vacated in part, insofar as it touches defendants' motion.

2. Defendants' motion for summary judgment is granted.

3. This action is dismissed with prejudice.

July 31, 2007
Date

RICHARD D. SLETTEN, CLERK

s/ G. Schneider
(By) G. Schneider, Deputy Clerk

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
05-CV-824(JMR/FLN)

Anderson Corp.)
)
v.)
) ORDER
Pella Corp. and W. L. Gore) (Filed Oct. 2, 2006)
& Associates, Inc.

This matter is before the Court on the parties' cross-motions for summary judgment. The Court heard oral argument on September 26, 2006.

Based on the files, records, and proceedings herein, and for the reasons stated at the hearing, IT IS ORDERED that:

1. Defendant's motion for summary judgment is denied [Docket No. 181].

2. Plaintiff's motion for summary judgement is denied [Docket No. 201].

Dated: September 28, 2006

s/ James M. Rosenbaum
JAMES M. ROSENBAUM
United States Chief
District Judge

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
Civil No. 05-824 (JMR/FLN)

- - - - - - - - - - - - - - -

Andersen Corporation,
Plaintiff,

-v-

Pella Corporation, et al.,
Defendants.

Motion Hearing
September 26, 2006

- - - - - - - - - - - - - - -

TRANSCRIPT OF PROCEEDINGS
HAD BEFORE THE
HONORABLE JAMES M. ROSENBAUM
Minneapolis, Minnesota

Reported By: Dawn M. H. Hansen, RMR-CRR
1005 U.S. Courthouse
300 S. Fourth Street
Minneapolis, MN 55402

* * *

[36] MR. SCHUTZ: I think if the Court has no other questions, I appreciate the time.

THE COURT: I have none, and I thank you.

MR. SCHUTZ: Thank you.

THE COURT: The Court is of a mind that there are unresolved issues of law and fact which

mitigate against summary judgment, and the Court declines to grant summary judgment.

* * *

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
05-CV-824 (JMR/FLN)

Anderson Corp.	) FINAL ORDER
	) of CLAIM
v.	) CONSTRUCTION
Pella Corp. and W.L. Gore & Associates, Inc.	) (Filed Aug. 30, 2006)

The Court has considered the parties' responses to its Preliminary Claim Construction filed July 7, 2006 [Docket No. 150]. Plaintiff objects to the Court's construction, and asks the Court to rule that the term "in a fenestration unit" limits each of the claims of U.S. Patent No. 6,880,612 (the '612 patent). [Docket No. 168].

Upon consideration, the Court presently finds it appropriate to maintain its previous claim construction.

IT IS SO ORDERED.

Dated: August 29, 2006

s/ James M. Rosenbaum
JAMES M. ROSENBAUM
United States Chief District Judge

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
05-CV-824 (JMR/FLN)

Anderson Corp.	)	PRELIMINARY CLAIM CONSTRUCTION
v.	)	
Pella Corp. W.L. Gore & Associates, Inc.	)	(Filed Jul. 7, 2006)

This matter is before the Court on the parties' motions for claim construction of U.S. Patent No. 6,880,612 (the '612 patent).

I. Background

Pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), the parties seek the Court's construction of the following disputed terms in the '612 patent:

a) "has/having a transmittance of light of at least [stated value] and a reflectance of light of [stated value] or less," from Claims 22 and 76;

b) "insect screening," from Claims 22 and 76.

II. Analysis

In construing claims, the Court "focuses at the outset on how the patentee used the claim term in the claims, specification and prosecution history," which are the intrinsic evidence of record. *Phillips v. AWH*

Corp., 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc). Terms are presumed to carry "the meaning that the term would have to a person of ordinary skill in the art at the time of the invention." *Id.* at 1313. The specification is the "single best guide to the meaning of a disputed term." *Id.* at 1315. The Court must guard against importing limitations from the specification into the claim. *Id.* at 1322-23. Furthermore, the claims are to be construed without regard to the accused product, *Jurgens v. McKasy,* 927 F.2d 1552, 1562 (Fed. Cir. 1991).

The Court must further consider whether any material was surrendered in the patent process. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 535 U.S. 722, 733-34 (2002) (prosecution history estoppel is a "rule of patent construction that ensures that claims are interpreted by reference to those that have been cancelled or rejected.") (internal quotations omitted.) A patentee who narrows a claim to obtain a patent disavows patent protection for the broader subject matter. *Id.* at 737. The relevant inquiry is whether a competitor would reasonably believe, based on the applicant's position before the PTO, that the applicant had surrendered the broader subject matter. *Cybor Corp. v. FAS Tech., Inc.,* 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc).

III. Claim Construction

With the Federal Circuit's approach firmly in mind, the Court turns to the construction of the disputed claim terms.

a) has/having a transmittance of light of at least [stated value] and a reflectance of light of [stated value] or less

The Court considers it unnecessary to define the term.

b) insect screening

The Court determines "insect screening" to be "a mesh of thin linear elements permitting ventilation while excluding insects."

IV. Responses

Any party objecting to the Court's preliminary claim construction shall submit alternative language on or before August 7, 2006.

IT IS SO ORDERED.

Dated: July 7, 2006

s/ James M. Rosenbaum
JAMES M. ROSENBAUM
United States Chief District Judge

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
05-CV-824 (JMR/FLN)

Anderson Corp.	)	
v.	)	ORDER
Pella Corp. W. L. Gore & Associates, Inc.	)	(Filed May 15, 2006)

Defendants ask the Court to reopen summary judgment briefing on the limited issue of obviousness, in light of the United States Supreme Court's decision in *KSR Intl Corp. v. Teleflex Inc.* 550 U.S. ___ (2007).

Upon consideration, defendant's request is granted. Each party shall have ten (10) days from the date of this Order to submit a brief addressing the issue, not to exceed 10 pages. The trial date will remain in effect.

IT IS SO ORDERED.

Dated: May 15, 2006

s/ James M. Rosenbaum
JAMES M. ROSENBAUM
United States Chief District Judge

Note: This order is nonprecedential.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

2007-1536

ANDERSEN CORPORATION,

Plaintiff/Counterclaim Defendant-Appellant,

v.

PELLA CORPORATION,

Defendant-Appellee,

and

W.L. GORE & ASSOCIATES, INC.,

Defendant/ Counterclaimant-Appellee.

Appeal from the United States District Court for the District of Minnesota in case no. 05-CV-00824, Chief Judge James M. Rosenbaum.

ORDER

(Filed Dec. 30, 2008)

A combined petition for panel rehearing and for rehearing en banc having been filed by the Appellees, and the petition for rehearing, having been referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for panel rehearing be, and the same hereby is, DENIED and it is further

ORDERED that the petition for rehearing en banc be, and the same hereby is, DENIED.

The mandate of the court will issue on January 6, 2009.

FOR THE COURT,

/s/ Jan Horbaly [AMT]
Jan Horbaly
Clerk

Dated: 12/30/2008

cc: Ronald J. Schutz
Calvin L. Litsey, Harry C. Marcus

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(3)

Supreme Court, U.S.
FILED

081209 MAR 27 2009

OFFICE OF THE CLERK
William K. Suter, Clerk
No. _____

In The Supreme Court of the United States

PELLA CORPORATION AND W.L. GORE & ASSOCIATES, INC.,

Petitioners,

v.

ANDERSEN CORPORATION,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

APPENDIX TO PETITION FOR A WRIT OF CERTIORARI VOLUME II

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APPENDIX VOLUME II

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(12) **United States Patent**
Pylkki et al.

(10) **Patent No.: US 6,880,612 B2**
(45) **Date of Patent: Apr. 19, 2005**

(54) **REDUCED VISIBILITY INSECT SCREEN**

(75) Inventors: **Russell John Pylkki**, St. Paul, MN (US); **Patrick Jerome Grouland**, Star Prairie Twonship, WI (US); **Rodney Kieth Williams**, Stacy, MN (US); **Kurt E. Heikkila**, Marine on the St. Croix, MN (US)

(73) Assignee: **Andersen Corporation**, Bayport, MN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/259,221**

(22) Filed: **Sep. 26, 2002**

(65) **Prior Publication Data**

US 2003/0150569 A1 Aug. 14, 2003

Related U.S. Application Data

(63) Continuation-in-part of application No. 10/068,069, filed on Feb. 6, 2002.

(51) **Int. Cl.**[7] **E06B 9/52**
(52) **U.S. Cl.** **160/371**; 245/8
(58) **Field of Search** ..... 174/35 MS; 160/371; 139/420 A; 442/181, 189

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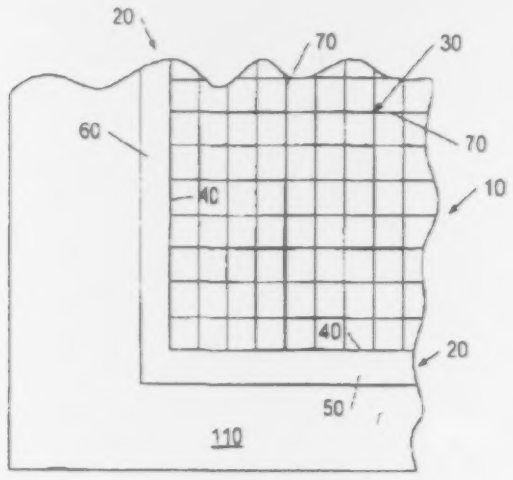
Primary Examiner—Blair M. Johnson
(74) *Attorney, Agent, or Firm*—Womble Carlyle Sandridge & Rice, PLLC

(57) **ABSTRACT**

A reduced visibility insect screening is described having a transmittance of at least about 0.75 and a reflectance of about 0.04 or less. In an alternative embodiment, an insect screening material includes screen elements having a diameter of about 0.005 inch, having a bond strength greater than 5500 psi, and having the same transmittance and reflectance limits. In another embodiment of the invention, a screening includes screen elements having a diameter of about 0.005 inch or less and a coating on the screen elements having a matte black finish, where the screening has the same transmittance and reflectance limits.

77 Claims, 21 Drawing Sheets



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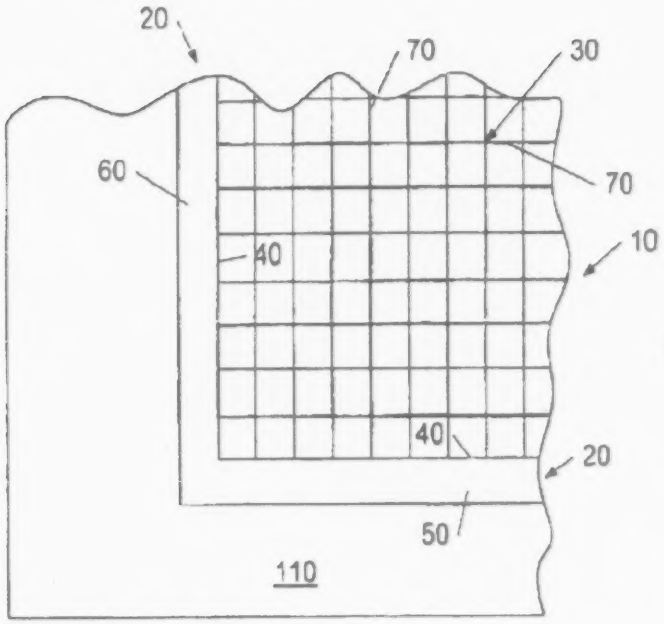


FIG. 1

FIG. 2

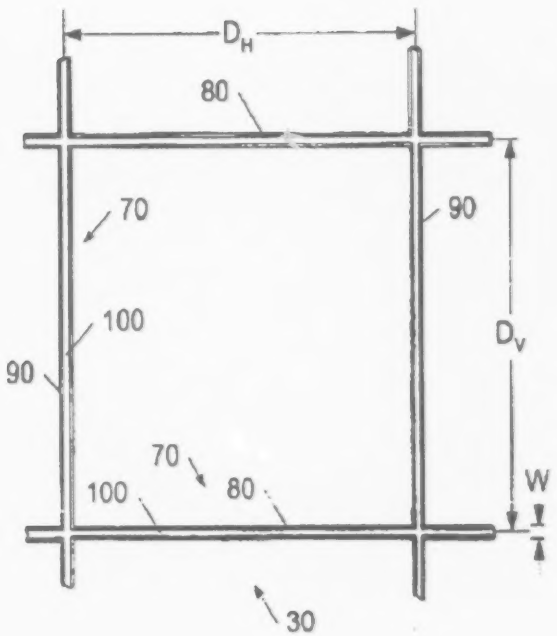
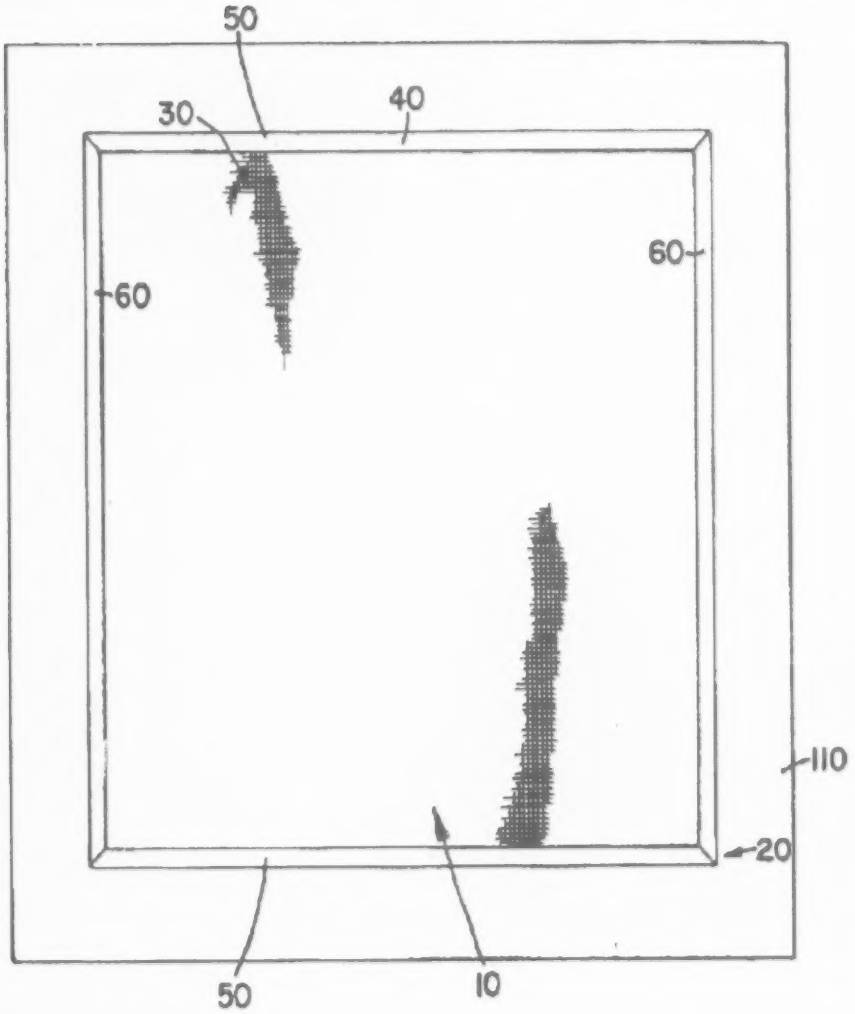


FIG. 3



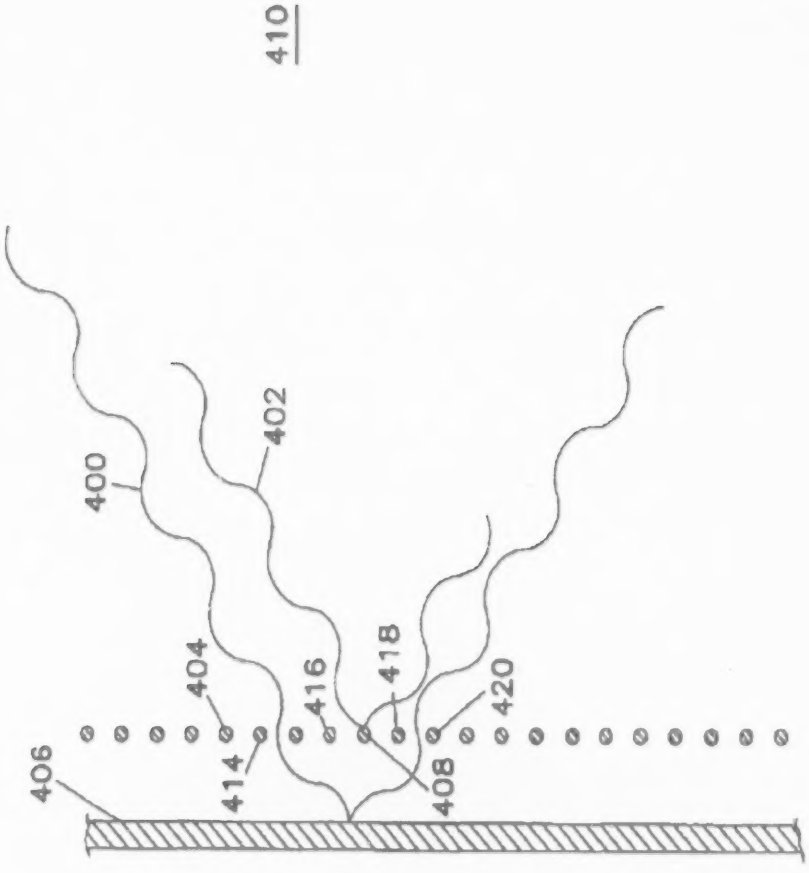


FIG. 4

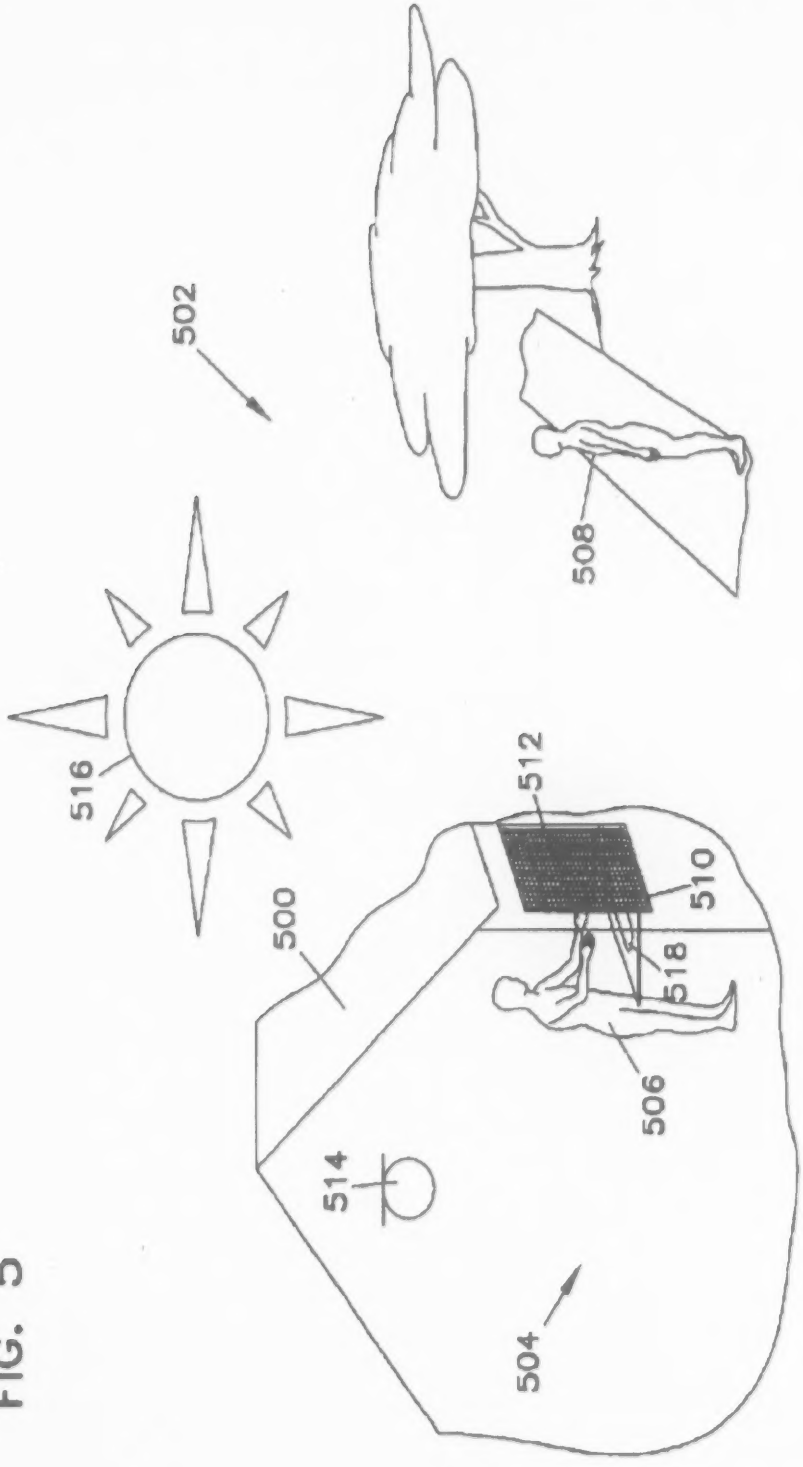


FIG. 5

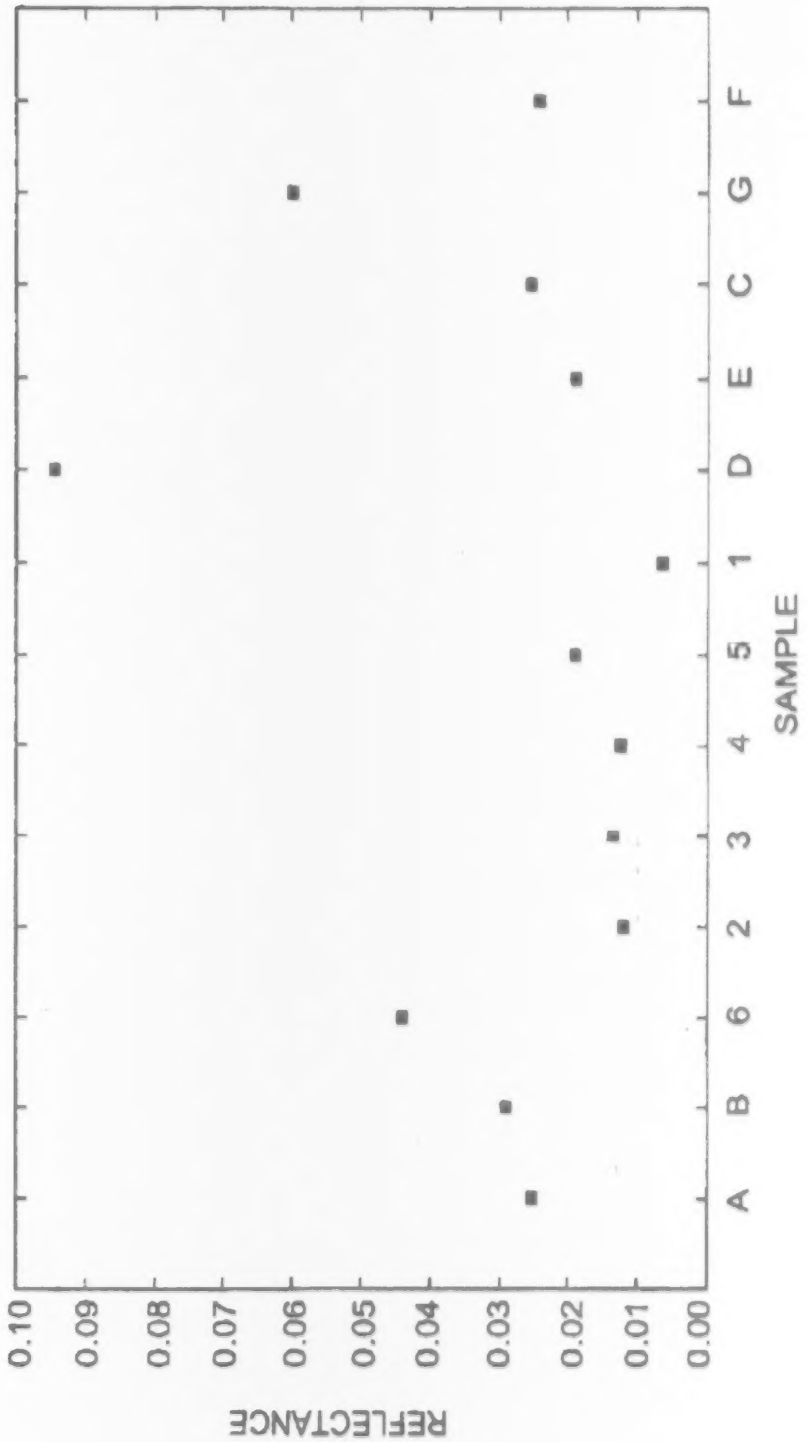

REFLECTANCE
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
SAMPLE
A
B
6
2
3
4
5
1
D
E
C
G
F

FIG. 6

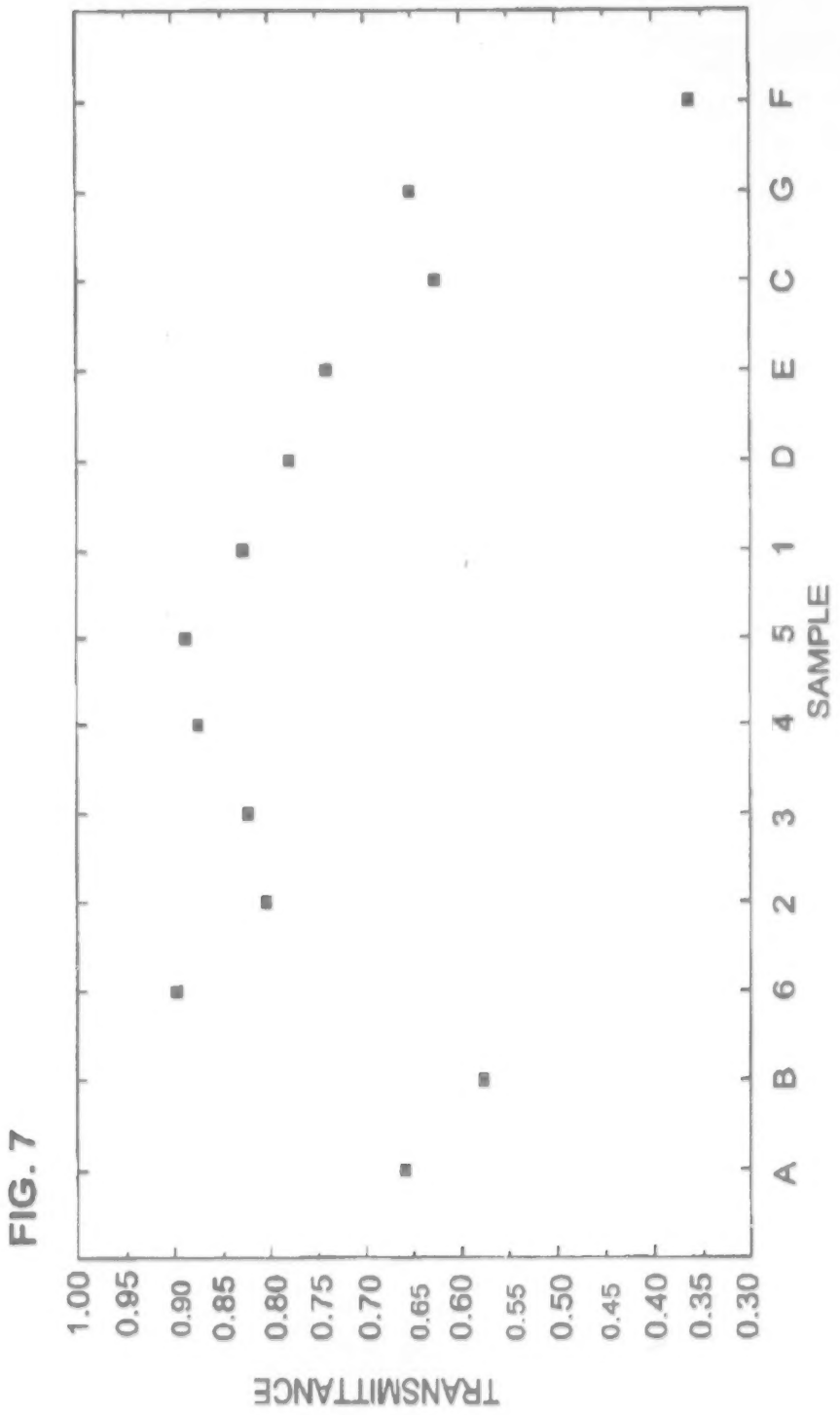

TRANSMITTANCE
1.00
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0.35
0.30
SAMPLE
A
B
6
2
3
4
5
1
D
E
C
G
F

FIG. 7

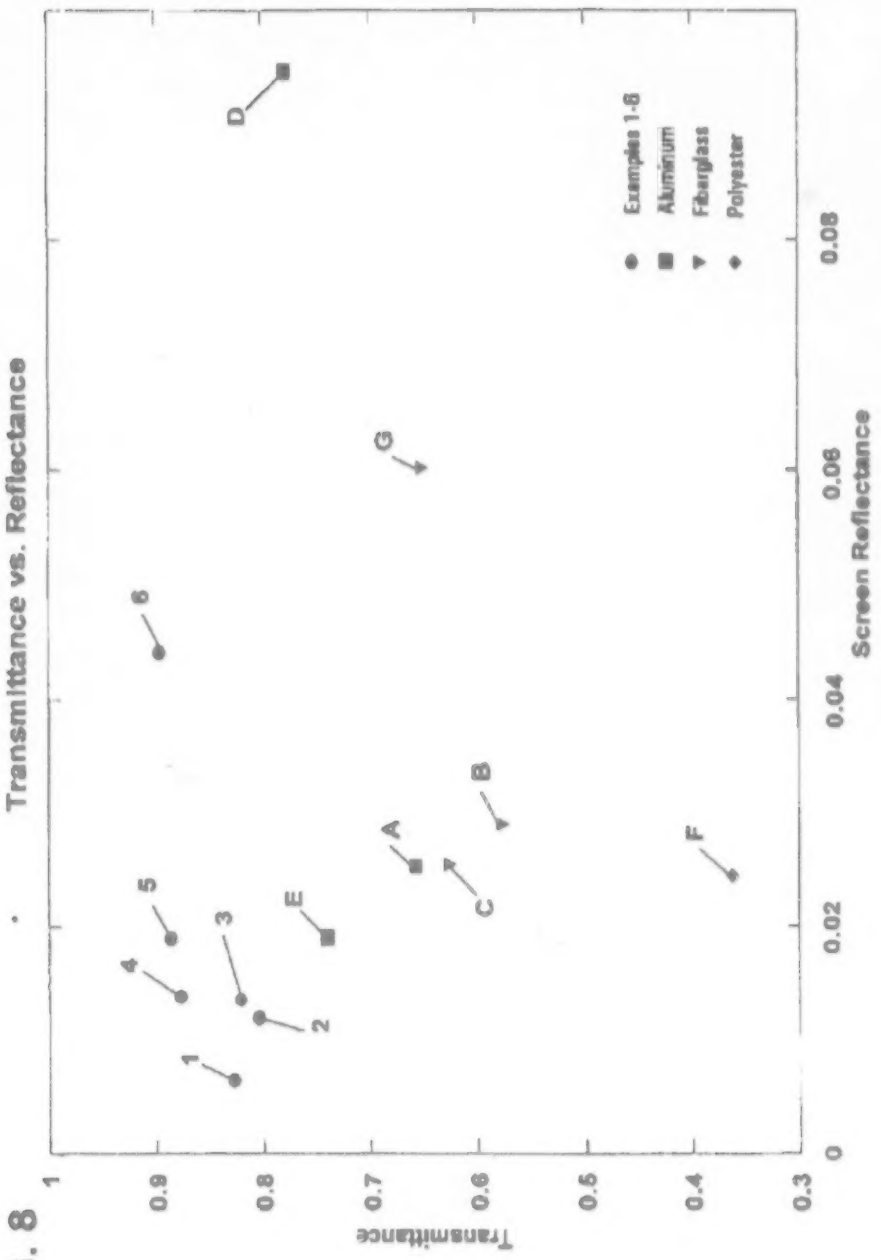

Transmittance vs. Reflectance
Transmittance
Screen Reflectance
Examples 1-6
Aluminum
Fiberglass
Polyester
1
2
3
4
5
6
A
B
C
D
E
F
G
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
0.02
0.04
0.06
0.08

FIG. 8

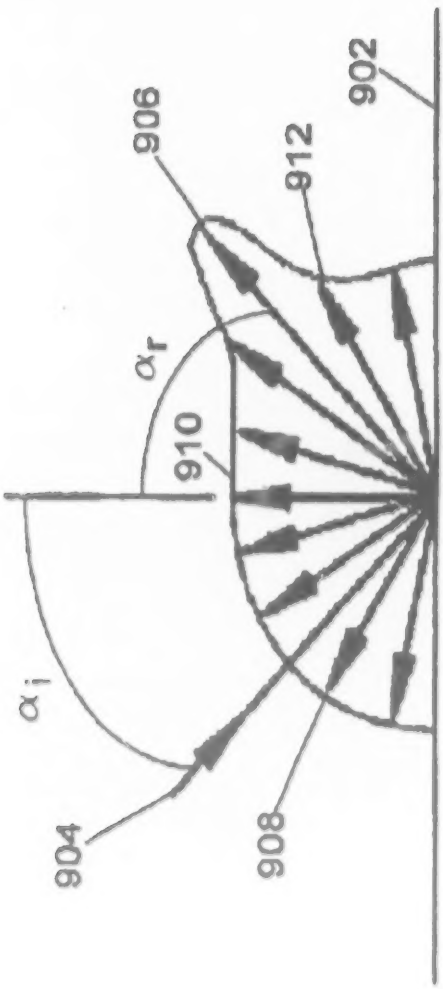


FIG. 9

FIG. 10

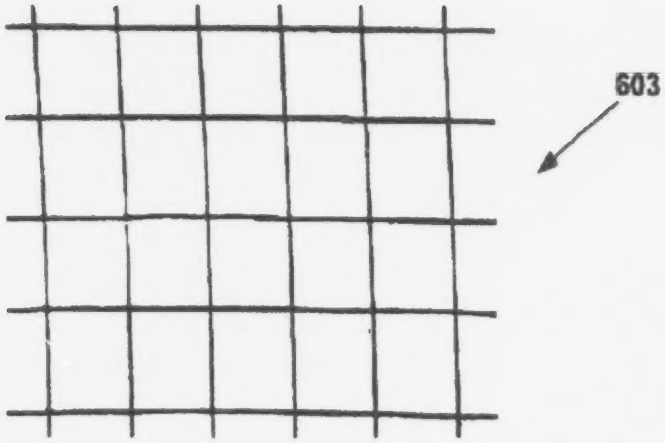


FIG. 14

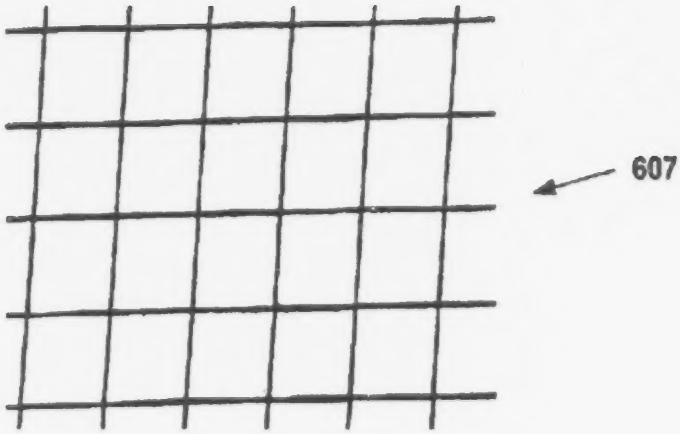


FIG. 11

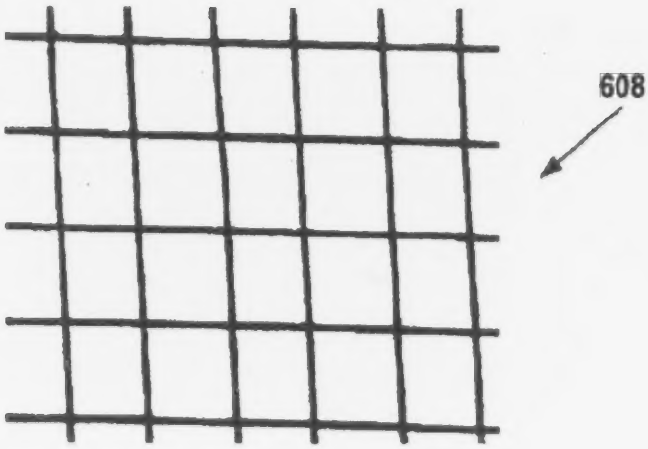


FIG. 12

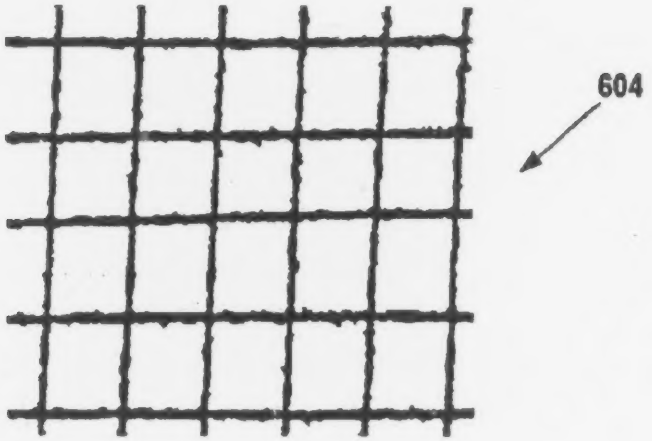
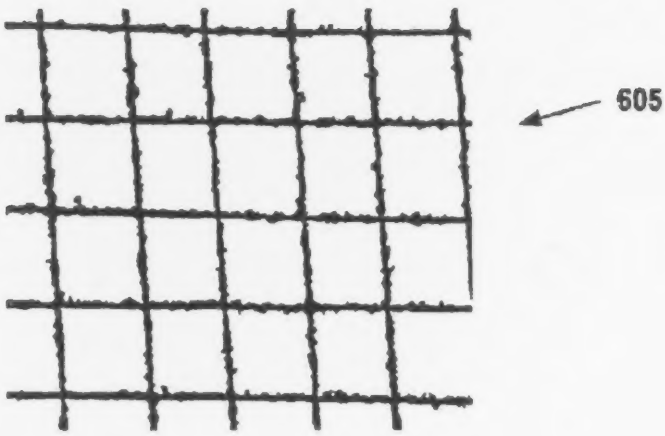


FIG. 13



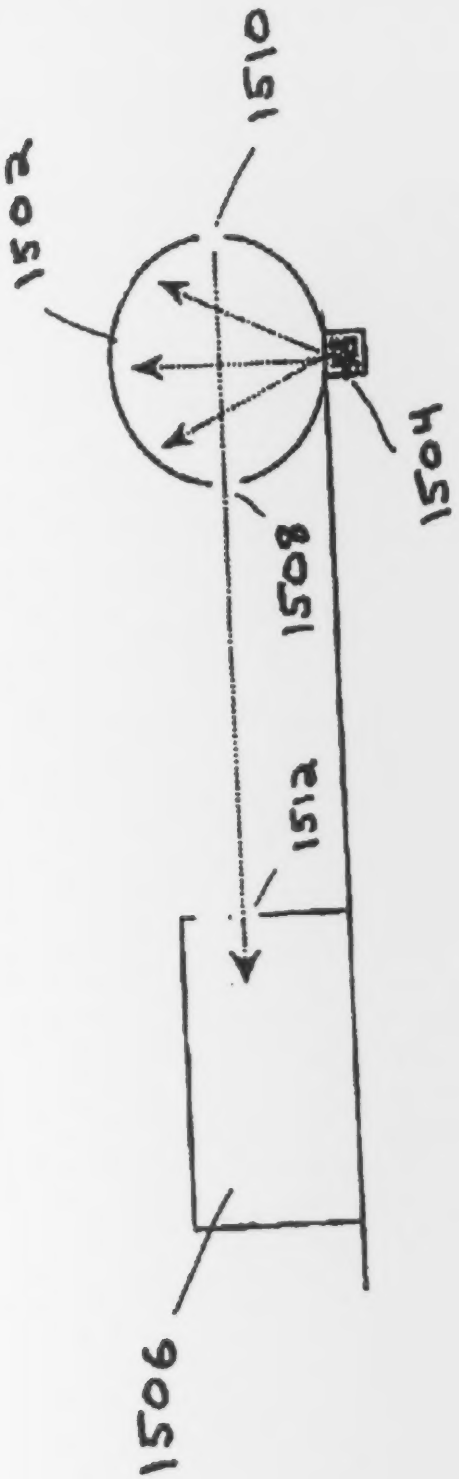


FIG. 15

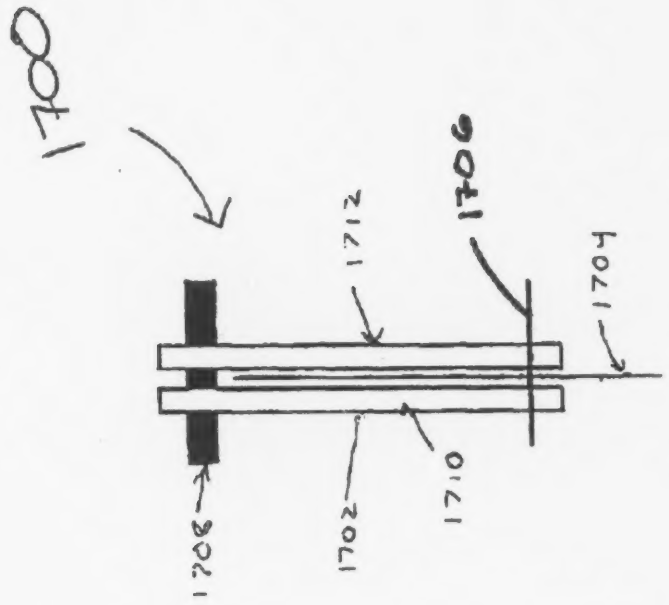


FIG 17

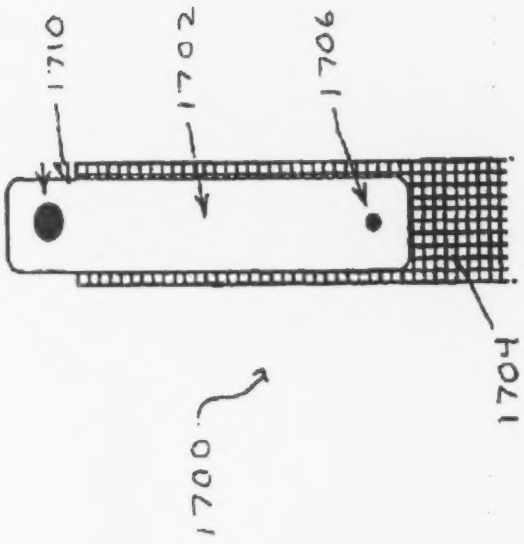


FIG 16

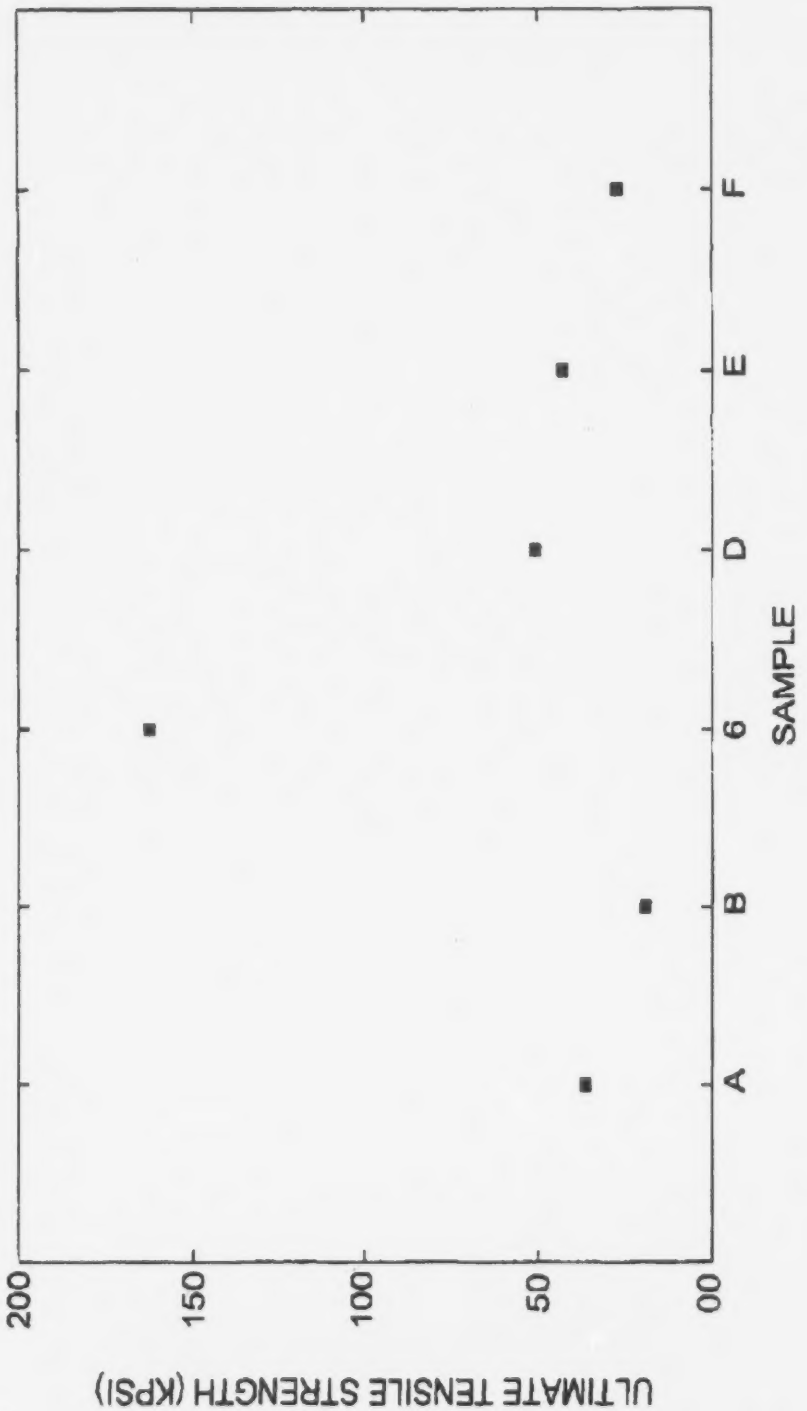

ULTIMATE TENSILE STRENGTH (KPSI)
200
150
100
50
00
A
B
6
D
E
F
SAMPLE

FIG. 18

FIG. 19

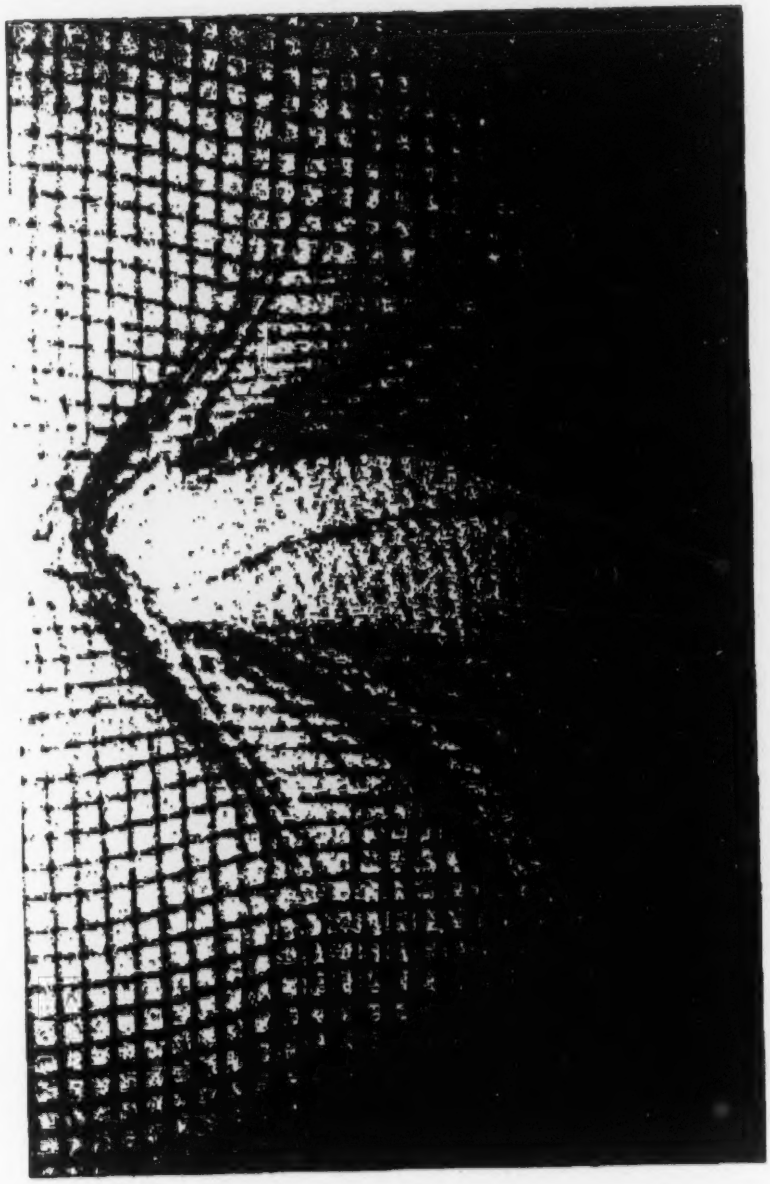


FIG. 20

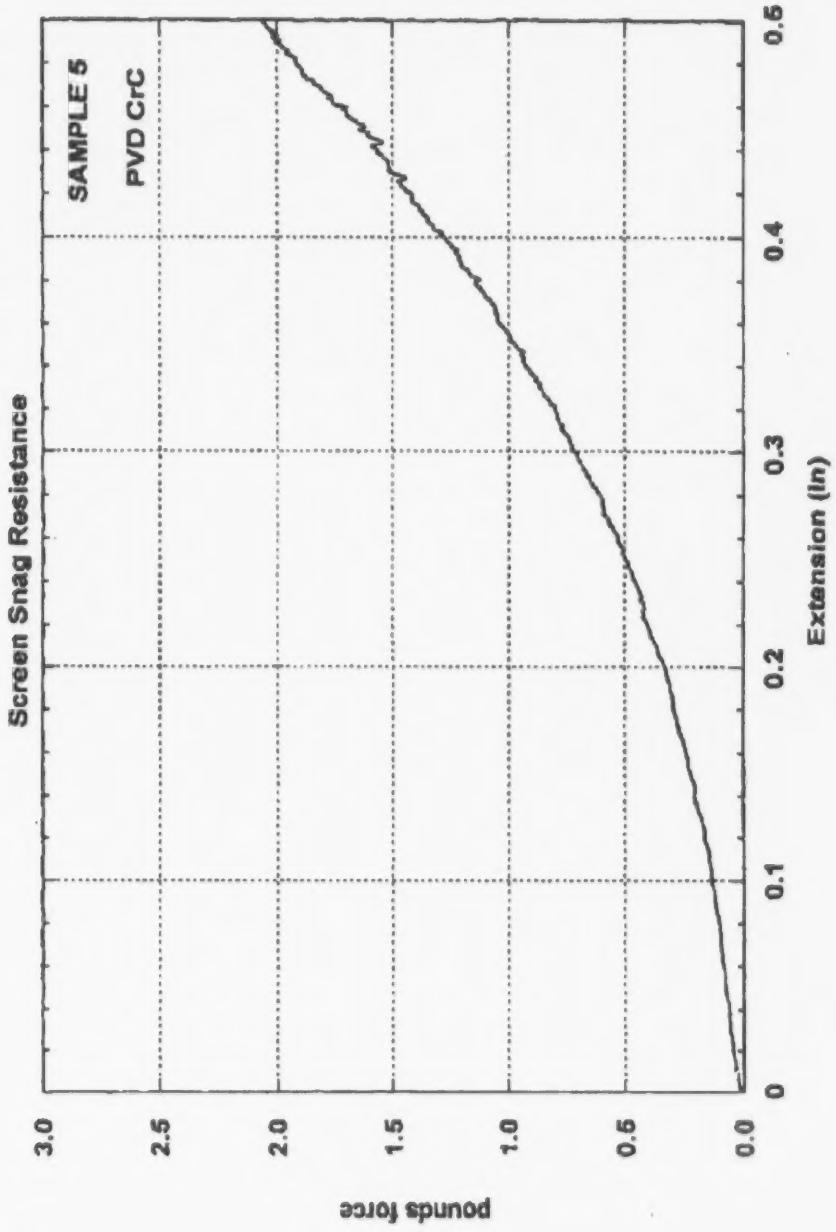

SAMPLE 5
PVD CrC
Screen Snag Resistance
pounds force
Extension (in)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
0.1
0.2
0.3
0.4
0.5

FIG. 21

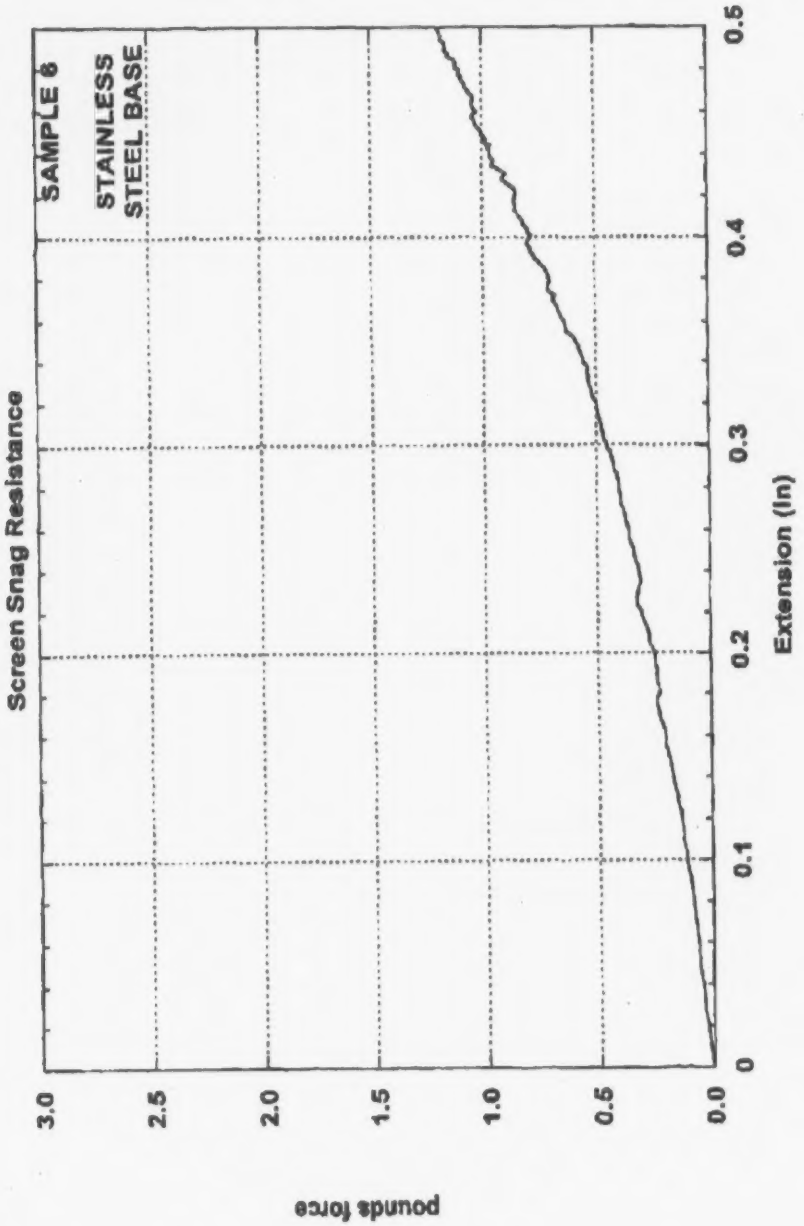

Screen Snag Resistance
SAMPLE 6
STAINLESS STEEL BASE
pounds force
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Extension (In)
0
0.1
0.2
0.3
0.4
0.5

FIG. 22

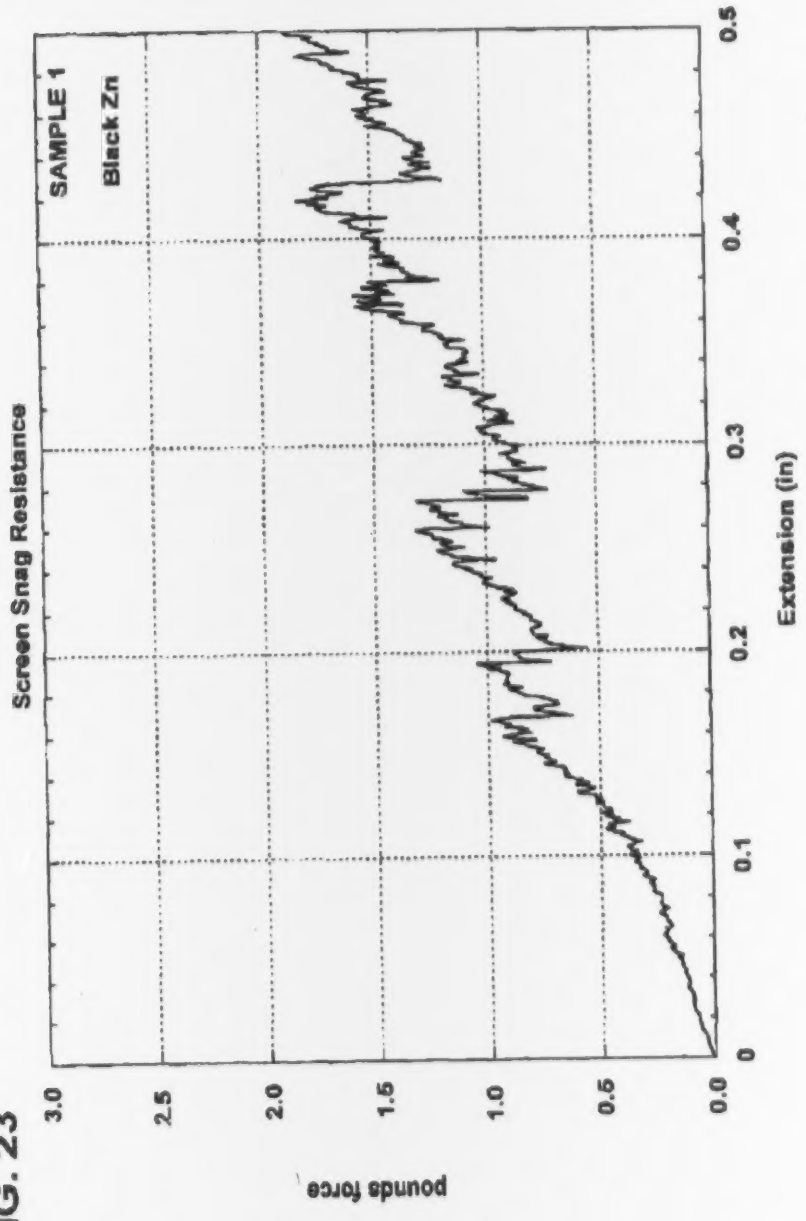

Screen Snag Resistance
SAMPLE 1
Black Zn
pounds force
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
0.1
0.2
0.3
0.4
0.5
Extension (in)

FIG. 23

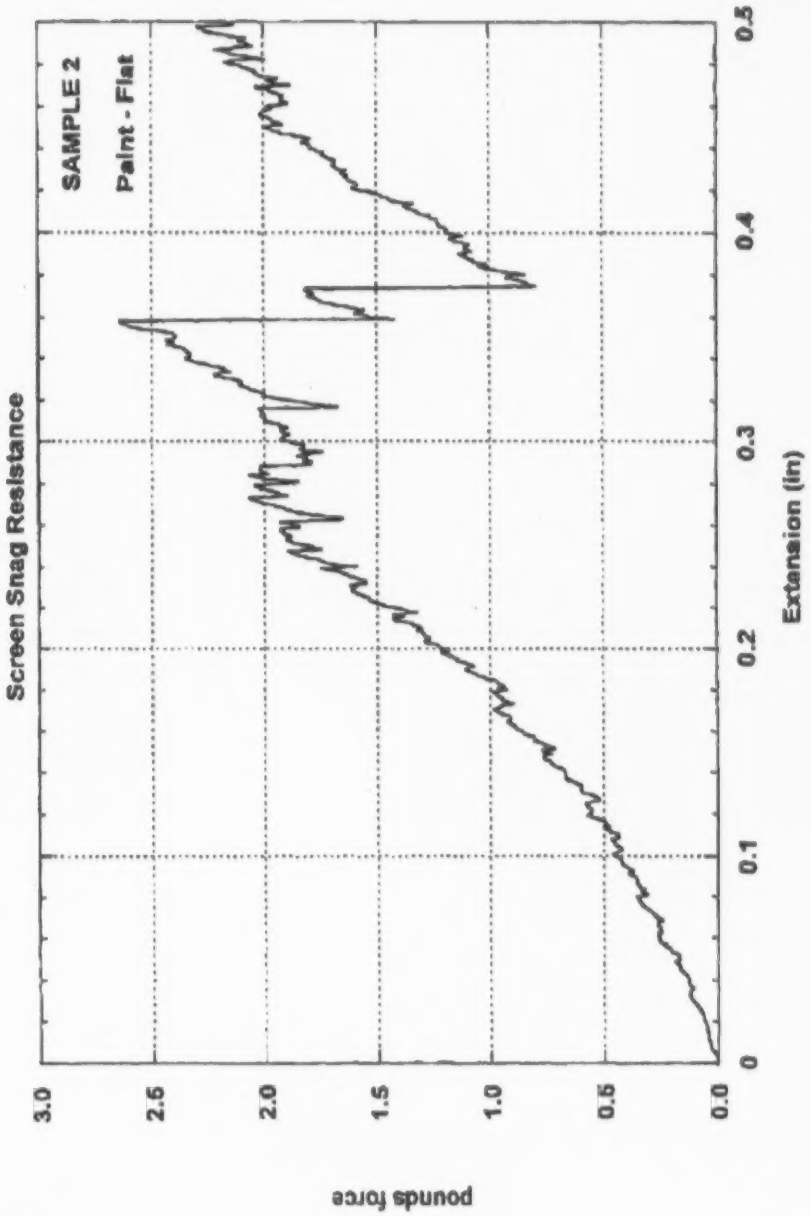

SAMPLE 2
Paint - Flat
Screen Snag Resistance
Extension (in)
pounds force
0
0.1
0.2
0.3
0.4
0.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0

FIG. 24

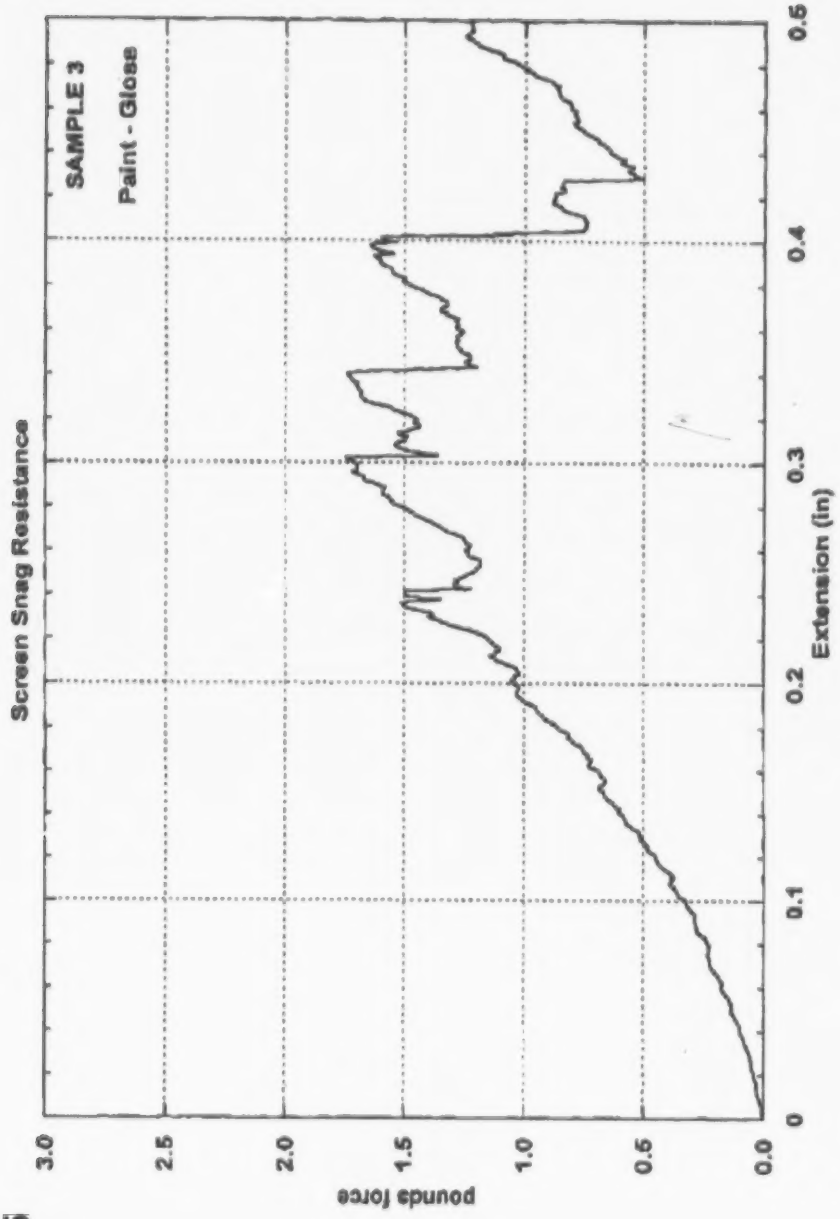

SAMPLE 3
Paint - Gloss
Screen Snag Resistance
pounds force
Extension (in)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0
0.1
0.2
0.3
0.4
0.5

FIG. 25

REDUCED VISIBILITY INSECT SCREEN

CROSS REFERENCE TO RELATED APPLICATIONS

This patent application is a continuation in part of co-pending U.S. application Ser. No. 10/068,069, filed Feb. 6, 2002, titled "REDUCED VISIBILITY INSECT SCREEN," which is hereby incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

The invention relates to insect screens such as, for example, for windows and doors, that are less visible than conventional insect screens. A screen or screening is a mesh of thin linear elements that permit ventilation but excludes insect pests. To the ordinary observer, the screens are less visible in the sense that the interference to observing a scene either on the exterior or the interior of the screen is substantially reduced.

BACKGROUND OF THE INVENTION

Insect screens are installed on windows and doors in homes to promote ventilation while excluding insects. Insect screens are, however, widely regarded as unattractive. From the inside of a window, some screens obstruct or at least distract from the view to the outside. From the outside, many people believe that screens detract from the overall appearance of a home or building. Homebuilders and realtors frequently remove screens from windows when selling homes because of the improved appearance of the home from the outside. Homeowners frequently remove screens from windows that are not frequently opened to improve the view from the inside and the appearance of the window.

A wide variety of insect screen materials and geometries are available in the prior art. Fiberglass, metallic and synthetic polymer screens are known. These screens suffer from reduced visual appeal due to relatively low light transmission, high reflection or both. Standard residential insect screens include a mesh with horizontal and vertical elements. The most common insect screens have about 18 elements per inch in one direction and 16 elements per inch the other direction, often expressed as being a 18×16 mesh. Some standard screens have a 18×14 mesh. The typical opening size is about 0.040 inch by 0.050 inch. Screens designed to exclude gnats and other very small insects usually include screen elements in a 20×20 mesh. The most common materials for the screen elements are aluminum and vinyl-coated fiberglass. Stainless steel, bronze and copper are also used for insect screen elements. Typical element diameters for insect screens are 0.011 inch for aluminum, bronze and some stainless steel offerings and 0.009 inch for galvanized steel and stainless steel.

Some products on the market advertise a black or charcoal colored screen mesh that is allegedly less visible from the inside of a house. Color coating changes and material changes have made some incremental improvements in the visual appeal of screening to the average observer, but most observers continue to object to the darkening effect that current insect screening causes in observing screens from inside and outside.

SUMMARY OF THE INVENTION

We have found unique features for the elements used to form insect screening that maximize transmission and minimize reflection resulting in reduced visibility of the screening and enhanced viewing through it. The awareness of the insect screen is substantially reduced while the ability to observe details of the viewed scene is greatly enhanced.

A reduced visibility insect screening is described where the transmittance of the screening is at least about 0.75 and the reflectance of the screening is about 0.04 or less.

In an alternative embodiment, an insect screening material includes screen elements having a diameter of about 0.005 inch (about 0.127 mm) or less. The screen elements have a tensile strength of at least about 5500 psi (about 37.921 mega Pascals). Again, the transmittance of the screening is at least about 0.75 and the reflectance of the screening is about 0.04 or less.

In another embodiment of the invention, a screening is described including screen elements having a diameter of about 0.005 inch (about 0.127 mm) or less and a coating on the screen elements having a matte black finish. The transmittance of the screening is at least about 0.75 and the reflectance of the screening is about 0.04 or less.

In further alternative embodiments, the transmittance of the screening is at least about 0.80 or the reflectance of the screening is about 0.03 or less, or 0.02 or less. The screening material may have an open area of at least about 75%, or at least about 80%. The screening may define mesh openings having a largest dimension not greater than about 0.060 inch (about 1.524 mm).

The screen elements may have a diameter less than about 0.005 inch (about 0.127 mm), and may have a tensile strength greater than about 5500 psi (about 37.921 mega Pascals). The screen elements may be made of a metal such as steel, stainless steel, aluminum and aluminum alloy, or a polymer such as polyethylene, polyester and nylon. Alternatively, the screen elements may be made of an ultra high molecular weight polyethylene or an amide such as polyamide, polyaramid and aramid.

In one embodiment, the screen elements include a coating, specifically a black matte coating such as electroplated black zinc. In one embodiment the screen elements are made of stainless steel with an electroplated black zinc coating.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention may be more completely understood by considering the detailed description of various embodiments of the invention that follows in connection with the accompanying drawings.

FIG. **1** is a fragmentary view of an insect screen in accordance with the invention.

FIG. **2** is a fragmentary view of a portion of the insect screen shown in FIG. **1**.

FIG. **3** is a perspective view of the insect screen shown in fragmentary view in FIG. **1**.

FIG. **4** is a diagram illustrating light paths in reflection from a window unit with a screen.

FIG. **5** is an illustration of inside and outside viewing perspectives of an insect screen on a window unit.

FIG. **6** is a graph showing the reflectance for embodiments of the invention and comparative example screen embodiments.

FIG. **7** is a graph showing the transmittance for embodiments of the invention and comparative example screen embodiments.

FIG. **8** is a graph showing the transmittance versus the reflectance for embodiments of the invention and comparative example screen embodiments.

FIG. **9** is a diagram showing specular and diffuse reflections from a matte surface.

FIG. **10** is a photograph taken through a microscope of uncoated screen elements.

FIG. **11** is a photograph taken through a microscope of stainless steel screen elements coated with a coating of electrodeposited black zinc.

FIG. 12 is a photograph taken through a microscope of stainless steel screen elements coated with flat paint.

FIG. 13 is a photograph taken through a microscope of stainless steel screen elements coated with gloss paint.

FIG. 14 is a photograph taken through a microscope of stainless steel screen elements coated with chromium carbide through a physical vapor deposition (PVD) process.

FIG. 15 is a diagram of an integrating sphere spectrophotometer for measuring the reflectance and transmittance of a screen material.

FIG. 16 is a front view of a test fixture for measuring the snag resistance of a screen material.

FIG. 17 is a side view of the test fixture of FIG. 16.

FIG. 18 is a graph showing the single element ultimate tensile strength for embodiments of the invention and comparative example screen embodiments.

FIG. 19 is a depiction of a snag on an unbonded insect screening.

FIG. 20 is a depiction of a snag on an insect screening having a paint coating.

FIGS. 21–25 are graphs plotting pounds of force applied to a rigid element versus inches of travel as the element moved against a screen mesh fabric for a snag resistance test for five different examples of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

We have found unique features for insect screening of the invention. We have found that by reducing the size of and selecting proper color and texture for the elements used in the screening, reflection and transmission are controlled such that the visibility of the screening is markedly reduced. The insect screening of the invention maintains comparable mechanical properties when compared to prior art insect screening, but is substantially improved in visual appearance. The insect screening of the invention can be used in the manufacture of original screens and can be used in replacement screens for windows, doors, patio doors, vehicles and many other structures where screening is used. The insect screening of the invention can be combined with metal frames, wooden frames or composite frames and can be joined to fenestration units with a variety of joinery techniques including adhesives, mechanical fasteners such as staples or tacks, splines, binding the screening material into recesses in the screen member frame or other common screen joining technology. When properly installed in conventional windows and doors, the ordinary observer viewing from the interior or the exterior through the insect screening of the invention has a substantially reduced awareness of the screening and a substantially improved ability to observe the scene on the other side of the screen.

We have found that the combination of reduced element size in the screening and coating on the screen elements combine to provide the improved visual properties of the insect screening of the invention. The selected materials disclosed for the screening of the invention are not limiting. Many different materials can satisfy the requirements of the invention.

Screen Within Frame and on Fenestration Unit

FIG. 1 is a fragmentary drawing of a portion of an insect screen **10** in accordance with the present invention. The insect screen **10** consists of a frame **20** including a frame perimeter **40** defining a frame opening. An insect screening **30** fills the opening defined by the frame perimeter **40**. The frame **20** supports the screening **30** on all sides of the screening **30**. The frame **20** is preferably sufficiently rigid to support the screening tautly and to allow handling when the screen **10** is placed in or removed from a window or door unit.

FIG. 2 is a fragmentary view of a portion of the insect screening shown in FIG. 1. The spaces between screen elements **70** define openings or holes in the screening **30**. In a preferred embodiment, the screen elements **70** include horizontal elements **80** and vertical elements **90**. Preferably, the horizontal and vertical elements **80**, **90** are constructed and arranged to form a mesh where a horizontal metal element intersects a vertical metal element perpendicularly. The intersecting horizontal and vertical metal elements **80**, **90** may be woven together. Alternatively, the intersecting horizontal and vertical metal elements **80**, **90** may be fused together although they may or may not be woven.

FIG. 3 is a perspective view of the insect screen shown in FIG. 1 positioned in a fenestration unit **110**. The frame **20** includes two pairs of opposed frame members. A first pair of opposed frame members **50** is oriented along a horizontal frame axis. A second pair of opposed frame members **60** is oriented along a vertical frame axis. The four frame members **50**, **60** form a square or rectangle shape. However, the frame may be any shape.

Goal of Making Screen Less Visible

When light interacts with a material, many things happen that are important to the visibility of insect screening. The visibility of screening can be influenced by light transmission, reflection, scattering and variable spectral response resulting from element dimensions, element coatings, and the dimensions of the mesh openings. In order to reduce the visibility of the screening, the transmittance is maximized, the reflectance is minimized, the remaining reflection is made as diffuse as possible, and any spectral reflectance is made as flat or colorless as possible. To accomplish this, it is beneficial to use screen elements with the smallest dimensions possible while still meeting strength requirements. Maximizing the dimensions of the grid openings will decrease visibility, but the dimensions of the grid openings are also chosen to achieve the desired insect exclusion and strength qualities.

In measuring to what degree an insect screening has achieved reduced visibility, the inventors have found that transmittance and reflectance are the most important factors for visibility of a screen from the exterior of a home. Because the sun is a much stronger light source than interior lighting, visibility of the screen from the exterior of the home is more difficult to reduce than visibility from the interior, as discussed further herein. Also, in double hung windows, the presence of an insect screen on the bottom half of the window contrasts with bare sash on the top half of the window to make the screening stand out.

FIG. 4 shows light paths for one typical viewing situation involving an observer outside a building looking at a screen and window. FIG. 4 shows a cross sectional view of screen **404** and glass **406** in the window. The window separates an exterior viewing location **410** from an interior scene **412**, where the screen **404** is on the exterior side of the glass **406**. Screen units are commonly positioned on the exterior of the glass, for example, in double-hung windows, sliding windows and sliding doors. Screening **404** is comprised of many elements, including elements **408**, **414**, **416**, **418**, and **420**. FIG. 4 generally illustrates the path of light ray **400** and light ray **402** as they interact with screen **404** and glass **406**. Light rays **402** and **404** are from the sun, which typically dominates the effects of any interior lights during a sunny day. The paths of light ray **400** and light ray **402** depict the ways in which reflectance and transmission affect the visibility of a screen for an outside observer of an exterior screen.

For example, light **402** travels toward glass **406** and reflects off element **408** in a direction away from glass **406**. Reflectance is the ratio of light that is reflected by an object compared to the total amount of light that is incident on the object. Solid, non-incandescent objects are generally viewed in reflection. (It is also possible to view an object in an

aperture mode where it is visible due to its contrast with a light source from behind it. A smaller screen element size decreases the visibility of a screen viewed in the aperture mode.) Accordingly, objects generally appear less visible if they reflect lower amounts of light. A perfectly reflecting surface would have a quantity of 1 for reflectance, while a perfectly absorbing surface would have a quantity of 0 for reflectance.

Another quantity that affects the visibility of screening is transmittance. When looking through screening, the viewer sees light emanating from or reflected from objects on the other side of the screening. As transmittance of the screening decreases, the viewer sees less light from the objects on the other side of the screening, and the presence of the screening becomes more apparent. Transmittance is defined as the ratio of light transmitted through a body relative to the total amount of light incident on the body. A value of 0 for transmittance would correspond to an object which light cannot penetrate. A value of 1 for transmittance would correspond to a perfectly transparent object. In the case of a window in a home viewed through an exterior insect screen by an outside observer, the light seen has traveled through the screen twice, as shown in FIG. **4**. For example, the light **400** travels away from the viewer and through the screen **404**. Next, the light is reflected off the window **406** and travels back through the screen **404** toward the outside viewer's eye.

Reducing the visibility of an exterior screen to an outside viewer is considered the most difficult because the intensity of sunlight is so much greater than lights within a building. If the visibility of an exterior screen for an exterior viewer is minimized, the screen will also be less visible for an inside viewer of an exterior screen, and for an inside and outside viewer of an interior screen. However, another important optical feature for invisibility of a screen to an inside viewer is a small element size, as will be further discussed. If the reflectance is minimized, the transmittance is maximized, and the screen element diameter is sufficiently small, the screening will be much less perceptible to inside viewers than conventional screens.

To achieve an insect screen that has reduced visibility, it is desirable to design insect screens with a low reflectance and high transmittance. Material choices and characteristics like color and texture can reduce reflectance. For example, dark matte colors reflect less light than light glossy colors or shiny surfaces. Reducing the cross-sectional area of the material and increasing the distance between the screen elements can increase transmittance. However, material that is too thin may not be strong enough to function properly in a typical dwelling. Similarly, insects may be able to pass through the screen if the distance between the elements is too large. Therefore, it is desirable to obtain a combination of strength, optical and mechanical characteristics within functional limits to achieve a screen with reduced visibility.

Inside and Outside Viewers

With reference to FIG. **5**, a cross-sectional view of a dwelling **500** is shown to illustrate how inside and outside observers view screens. Dwelling **500** separates the outside **502** from the inside **504**. An inside viewer **506** is illustrated inside **504** of the dwelling **500** while an outside viewer **508** is illustrated outside **502**. Window **510** is located in a wall of dwelling **500** and also separates the inside **504** from the outside **502**. Screen **512** covers the window **510** on the outside **502** side of window **510**.

The inside viewer **506** in FIG. **5** is separated from window **510** by the width of sink **518**, which represents a typical close range interior viewing distance, frequently about 2 feet. The closer the viewer **506** stands to the screen **512**, the more obvious the screen **512** will appear. For example, at 12 inches, which is a relatively close range interior viewing distance, the normal visual acuity of the human eye is about 0.0035 inch (about 0.0888 mm). Elements having a diameter of less than about 0.0035 inch will likely not be perceived by a viewer of normal eyesight at a distance of 12 inches (30.48 cm). Therefore, the perceived visibility is affected by the diameter of the screen elements and the distance between the viewer **506** and the screen **512**. At about 24 inches, the normal visual acuity is about 0.007 inch. For this reason, elements having a diameter of about 0.007 inch will not be resolvable to a viewer at about 24 inches from the screening.

Inside a building or dwelling, interior lighting fixtures such as light **514** provide the primary interior light source that would reflect from the screen. Outside of the dwelling, the sun **516** provides a much stronger light source that will reflect off the screen **512**. Accordingly, the reflectance of the screen will generally be of greater importance to the visibility of the screen to the outside viewer **508** than to the inside viewer **506**, because much more light is incident on the screen from the exterior **502** than from the interior **504**. However, the shape of the elements, which are normally round, may cause sunlight to be reflected into the interior of the building, impacting the visibility of the screen to an inside viewer.

The transmittance of the screen affects visibility of the screen for both the inside viewer **506** and the outside viewer **508**. The inside viewer **506** views the exterior scene by the sunlight that is reflected off the outside objects and then transmitted through the screening **512**. The less light transmitted through the screening **512**, the more the inside viewer's perception of the exterior view is negatively affected by the screening. As discussed above in relation to FIG. **4**, when looking through the screening, the exterior viewer sees light reflecting from or emanating from the objects on the interior side of the screening. As the transmittance of the screening decreases, the presence of the screening becomes more apparent.

The perspective of inside and outside viewers has been discussed so far with respect to a screen that is on the exterior side of a window. This is the configuration used in most double hung windows, sliding windows, and sliding doors. However, many window units have screens on the interior side of the window, such as casement windows or awning windows. Where the screen is inside of the glass, the reflectance and transmittance of the insect screening will still impact the visibility of the screen. Generally, screens on the outside of the glass are the most obvious type to the outside viewer, so this is the harder configuration to address for outside viewing. As discussed above, the size of the individual screen elements has an important impact on the visibility of a screen to an inside observer. If a screening possesses reflectance and transmittance qualities that are acceptable for outside viewing, and a sufficiently small element diameter, the screening will also be less visible to the inside observer than conventional insect screens, whether the screen is on the inside or outside of the glass.

Specular Versus Diffuse Reflectance

FIG. **9** illustrates two types of reflection that occur from surfaces: specular reflection and diffuse reflection. In specular reflection, light has an angle of reflection measured from the normal to the surface that is equal to the angle of incidence of the beam measured from the normal, where the reflected beam is on the opposite side of the normal to the surface from the incident beam. In diffuse reflection, an incident beam of light is reflected at a range of angles that differ significantly from the angle of incidence of the incident parallel beam of light.

In FIG. **9**, light rays are shown interacting with a surface **902**. Light ray **904** is incident on the surface **902** at an angle of incidence α_i. A portion of the light ray **904** is specularly reflected as light ray **906**, where the angle of reflection α_r is equal to the angle of incidence α_i. However, light rays **908**, **910**, and **912** are examples of diffusely reflected light rays that are reflected at a range of different reflection angles.

For reducing the visibility of screening, diffuse reflection is preferred over specular reflection because diffuse reflection disperses the power of the incident light over multiple angles. In specular reflection, the light beam is generally redirected to the reflection angle while maintaining much of its power. Providing a dull or roughened surface increases diffuse reflection from a screen mesh.

Reflectance & Transmittance Testing Procedure

Measurements for reflectance and transmittance may be made with an integrating sphere spectrophotometer. For the purposes of the data presented herein, a Macbeth Color-Eye 7000 spectrophotometer, manufactured by GretagMacbeth of Germany, was used to obtain transmittance and reflectance measurements for wavelengths of 360 to 750 nm.

The spectrophotometer shown in FIG. **15** contains an integrating sphere **1502** useful when measuring samples in reflection or transmission. Integrating sphere **1502** contains front port **1510** and exit port **1508**. The front port **1510** measures about 25.4 mm in diameter.

A xenon flash lamp **1504** is located at the base of the integrating sphere. Detector **1506** measures the amount of light emitted from integrating sphere **1502**. Detector **1506** contains viewing lens **1512** for viewing the light. Viewing lens **1512** contains a large area view.

For reflectance measurement, the spectrophotometer is set to a measurement mode of: CRILL, wherein the letters correspond to the following settings for the machine: C—Reflection, specular included; R—Reflection; I—Included Specular, I—Included UV; L—Large Lens; L—Large Aperture. When measuring reflectance, the sample is held flat against the front port **1510**. Next, a light trap is placed behind the sample to prevent stray light from entering integrating sphere **1502**. The light source **1504** emits light into the integrating sphere **1502**. Some of the light is reflected off the sample and exits the integrating sphere **1502** through the exit port **1508**. Once the light exits the exit port **1508**, it enters the detector **1506** through viewing lens **1512**. The spectrophotometer produces a number that is a ratio indicating the light reflected by the sample relative to the light reflected by a perfectly reflective surface.

For a transmittance measurement, the spectrophotometer is set to a measurement mode of: BTIILL, wherein the letters correspond to the following settings for the machine: B—Barium; T—Transmittance; I—Included Specular, I—Included UV; L—Large Lens; L—Large Aperture. The front port **1510** of the spectrophotometer is blocked with an object coated with barium oxide, identical to the interior surface of the sphere **1502**. When measuring the transmittance of a sample, it is necessary to hold the sample flat against the exit port **1508** of the integrating sphere **1502**. The light source **1504** emits light into the integrating sphere **1502**. Some of the light exits the integrating sphere **1502** through exit port **1508**. Once the light that is transmitted through the sample enters the detector **1506** through viewing lens **1512**, the spectrophotometer produces a number that is a ratio indicating the light transmitted by the sample relative to the light transmitted where there is no sample.

Data collected for reflectance and transmittance for a number of screen samples will be described below with respect to FIGS. **6** and **7**.

Data for Reflectance and Transmittance

Table 1 contains average values of test data for optical qualities of insect screening embodiments.

TABLE 1

Optical Data for Examples

Sample	Description	Transmittance	Reflectance
1	Black Zn Cr	0.828	0.006
2	Flat Paint	0.804	0.012
3	Glossy Paint	0.821	0.014
4	Black Ink	0.874	0.013
5	PVD Cr(x)C(y)	0.887	0.019
6	Stainless Steel Base	0.897	0.044

Examples of the present invention will now be described. Six different samples were prepared and tested for optical qualities related to the present invention.

Each of Samples 1–6 was formed by starting with a base screening of stainless steel elements having a diameter of 0.0012 inch. The elements are made of type **304** stainless steel wire. The base screening has 50 elements per inch in both horizontal and vertical directions. It is a woven material and has openings with a dimension of 0.0188 inch by 0.0188 inch. The open area of this base material is about 88%, measured experimentally using a technique that will be described further herein. This material is commercially available from TWP, Inc. of Berkley, Calif. Sample 6 is the base screening without any coating. FIG. **10** is a photograph of Sample 6 taken through a microscope.

To form Sample 1, the base screening was coated by electroplating it with zinc and then a conversion coating of silver chromate was applied. The zinc reacts with the silver chromate to form a black film on the surface of the screen elements. A photograph of Sample 1 taken through a microscope is shown in FIG. **11**. The black zinc coating bonds the horizontal and vertical screen elements together at their intersections. The coating increases the thickness of the screen element and therefore reduces the transmittance of the resulting screening by about 0.07 compared to the uncoated screening of Sample 6. The black finish decreases reflectance of incident light dramatically compared to the uncoated Sample 6.

To form Samples 2 and 3, the base screening was coated with about two to three coats of flat black paint and glossy black paint, respectively. As the paint was being applied manually, the painter visually inspected the surface and attempted to apply a uniform coating of paint. Depending on the speed of the spray apparatus passing over the various portions of the surface, two or three coats were applied to different areas of Samples 2 and 3, based on the painter's visual observations, to achieve a fairly even application of paint. Photographs of Samples 2 and 3 taken through a microscope are shown in FIGS. **12** and **13**, respectively. The paint coating joins the horizontal and vertical screen elements together at their intersections and provides a black finish. The coating increases the thickness of the screen element and therefore reduces the transmittance of the resulting screening compared to the uncoated screening of Sample 6. The black color of both Samples 2 and 3 decreases reflectance of incident light compared to the uncoated Sample 6, with the flat black paint of Sample 2 having a lower reflectance than the glossy paint.

Sample 4 was coated with black ink. The application of ink to the screening does not significantly bond or join the horizontal and vertical screen elements together at their intersections. The coating of ink increases the thickness of the screen element a small amount and therefore reduces the transmittance of the resulting screening compared to the uncoated screening of Sample 6. The black finish decreases the reflectance of incident light compared to the uncoated Sample 6.

Sample 5 was coated with chromium carbide by physical vapor deposition (PVD). A photograph taken through a microscope of Sample 5 is shown in FIG. **14**. The chromium carbide coating does not bond the horizontal and vertical screen elements together at their intersections, but does provide a black finish. The coating increases the thickness of the screen element very slightly and therefore reduces the transmittance of the resulting screening compared to the uncoated screening of Sample 6. The black finish decreases reflectance of incident light compared to the uncoated Sample 6.

Several commercially available insect screenings were tested for their optical qualities as a basis for comparison to the samples of the invention. The following table contains average values of actual test data from each material.

TABLE 2

Optical Data for Comparative Examples

Sample	Description (material, color, manufacturer, trade name if any)	Transmittance	Reflectance
A	Al, Gray, Andersen Windows	0.658	0.025
B	FG, Black, Andersen Windows	0.576	0.029
C	FG, Black, Phifer	0.625	0.025
D	Al, metallic, Phifer, Brite-Kote ™	0.779	0.095
E	Al, Charcoal, Phifer	0.741	0.019
F	Polyester, Black, Phifer, Pet Screen ®	0.363	0.024
G	FG, Gray, Phifer	0.652	0.060

Samples A, D and E are made of aluminum elements. Samples B, C, and G are made of vinyl-coated fiberglass elements. Sample F is made of a polyester material.

FIG. **6** shows a comparison of reflectance values for both commercially available screening Samples A–G and screenings of the present invention Samples 1–6. Lower values for reflectance correspond to screening that appears more invisible because less light is reflected in the direction of the viewer. Samples 1–4 have the lowest values for reflectance. The least reflective commercially available Sample E has an average reflectance value of 0.019, which is equivalent to the average value of the second-most reflective Sample 5.

FIG. **7** shows a comparison of transmittance values for the screen materials set forth in the tables above. Higher values for transmittance correspond to screens with preferred optical qualities. Screening Samples 1–6 have higher transmittance values than the commercially available Samples A–G.

FIG. **8** is a graph of transmittance versus reflectance for the screen materials set forth in the tables above. Samples 1–5 all have a transmittance of at least about 0.80 and a reflectance of no more than about 0.020. None of the comparative samples have a transmittance greater than 0.78. None of the comparative samples have both a transmittance of greater than 0.75 or 0.80 and a reflectance of less than 0.020, 0.025, 0.030 or 0.040, while samples 1–5 have those qualities.

Percent Open Area

The percent open area also relates to the invisibility of an insect screen. Assuming a square mesh, the percent open area (POA) can be computed as follows:

$$POA=((W)(D+W))^2*100$$

where:

D=element diameter, and
W=opening width.

Many commercially available screenings have a rectangular mesh. The POA for a rectangular mesh can be computed as follows:

$$POA=(1-N*D)(1-n*d)*100$$

where:

N=number of elements per inch in a first direction,
D=element diameter of the elements extending in the first direction,
n=number of elements per inch in a second direction, and
d=element diameter of the elements extending in the second direction

Generally, screens appear less visible if they contain a larger percentage of open area. For example, Sample 6 has about 88% open area, corresponding to 50 elements per inch in either direction, screen elements of woven 0.0012-inch (0.03-mm) type **304** stainless steel wire, and openings sized 0.0188 inch (0.5 mm)×0.0188 inch (0.5 mm).

In contrast, standard insect screening has about 70% open area and often have opening sizes of 0.05 inch by 0.04 inch. Standard gnat-rated insect screens often have a percent open area of about 60% and opening sizes of about 0.037 inch by 0.037 inch with elements of about 0.013 diameter.

Decreasing the wire diameter can increase the percent open area. It is desirable to select a wire diameter that allows for the largest percent open area while maintaining suitable strength. Screening is commercially available made of unwelded **5056** aluminum wire of 0.011-inch (0.279 mm) diameter. The term unwelded indicates that the horizontal and vertical elements are not bonded or welded together at their intersections. Importantly, type **304** stainless steel wire has almost three times the tensile strength of **5056** aluminum wire. Accordingly it is possible to use a smaller wire diameter of 0.0066 inch (0.1676 mm) of type **304** stainless steel to achieve tensile strength similar to the **506** aluminum screening.

Additional materials may be selected within the scope of the present invention to increase the percent open area by decreasing the diameter of the screen elements. These materials include, but are not limited to: steel, aluminum and its alloys, ultra high molecular weight (UHMW) polyethylene, polyesters, modified nylons, and aramids. It is also possible to use an array of man-made fibers for generalized use in the industrial arts. An example of this material is sold under the trademark KEVLAR®.

Generally, the percent open area corresponds roughly to the percentage of transmittance through a particular screening. However, accepted techniques for calculating percent open area like those expressed above do not account for the elements crossing each other in the screening, and therefore over-estimate the percent open area by a few percent. The amount of error inherent in these calculations depends on the thickness of the wire.

Strength of Screen Elements

FIG. **18** illustrates the single element ultimate tensile strength for elements of Sample 6 and comparative Samples A, B, D, E and F. Samples 1–5 consist of the same material as Sample 6 but with a coating added. Therefore Samples 1–5 have ultimate tensile strengths that are about the same as for Sample 6. The electroplated zinc coating applied to Sample 1 may in fact increase the ultimate tensile strength of those elements.

As discussed above, the diameter of the elements in Sample 6 is much smaller than commercially available insect screen elements. Therefore, inventive elements must have a higher tensile strength than elements used in prior screening materials to achieve similar strength specifications as prior screening materials. In FIG. **18**, ultimate tensile strength is charted in Ksi or 1000x psi. The tensile strength for the elements of Sample 6 is about 162 Ksi, which is over

three times stronger than Sample D, which is the strongest element in the commercially available Samples A, B, D, E and F. A minimum desirable tensile strength for the screen elements is about 5500 psi or more, or about 6000 psi or more. Preferably, at least about a tenth of pound of force is required to cause a single screen element to break. About 0.16 pound force is required to break a 0.0012-inch stainless steel element of Sample 6.

Snag Resistance

Snag resistance is a measure of how a screen reacts to forces that could cause a break, pull, or tear in the screen elements, such as clawing of the screening by a cat. Snag resistance is important because birds, household animals, and projectiles come into contact with screens.

FIGS. **16** and **17** show a test fixture **1700** used to measure snag resistance. Test fixture **1700** includes a screen guide **1702** made from two 0.5x6-inch pieces of fiberglass laminate material **1710** and **1712**. The pieces **1710** and **1712** are approximately 0.060 inches thick and are used to guide the screen cloth **1704** during the test by placing the screen cloth **1704** between pieces **1710** and **1712** of screen guide **1702**. The pieces **1710** and **1712** contain an upper clearance hole to attach the screen guide **1702** to an instrument that measures the maximum load. Pieces **1710** and **1712** also contain a lower clearance hole to support a snagging mandrill **1706**.

When preparing a sample of screening **1704** for a test, a 2-inchx6-inch sample strip of screen **1704** is cut out so that the warp and weft directions lie with and perpendicular to the test direction. The warp direction is along the length of a woven material while the weft direction is across the length of the woven material. The screen guide **1702** is hung from a load cell gooseneck and a snagging mandrill **1706** is carefully passed through the screen **1704**. The test is started and the snag mandrill **1706** is moved through the screen **1704** at the rate of 0.5 inch/minute and continued until 0.5 inch is traveled. At this point, the test is terminated and the sample is removed. Care must be taken not to damage the sample when removing it from the test fixture. Several measurements may be recorded, including the maximum load obtained and the load at a specific extension divided by the extension (lb-force/in).

Samples were also visually inspected to determine the failure mode. Three failure modes are generally possible with insect screens. The first failure mode is element breakage because the joints hold and the sections of element between the joints break. The second failure mode is joint breakage. This occurs when the elements hold and the joints break. The third failure mode occurs when the elements break and the joints slip. This third failure mode is a combination of element breakage and joint breakage. Generally, element breakage is the preferred failure mode because it disturbs less surface area on the screen.

FIG. **19** illustrates a screen with unbonded elements corresponding to Sample 6 after undergoing the snag resistance test described above. The screen elements appear to have slid together due to the force of the snagging mandrill **1706**. FIG. **19** is generally an example of the joint breakage failure mode. As no coating forms a bond at the intersections of the elements in Sample 6, any joint strength is due to frictional forces between the elements in the weave.

Conversely, FIG. **20** shows a screen with elements coated and joined at their intersections by paint after undergoing the snag resistance test. Unlike the unbonded elements shown in FIG. **19**, the painted elements appear to have broken at several locations rather than merely sliding together. FIG. **20** is an example of the element breakage and joint breakage failure mode discussed above. The failure mode shown in FIG. **20** is preferred over the failure mode shown in FIG. **19** because less surface area is disturbed on the screen, creating a more desirable appearance, and a less visible screening, after a snag. The element breakage mode is preferred over the element breakage and joint breakage failure mode because even less surface area is disturbed on the screening.

To achieve an element breakage mode, the joint strength needs to be sufficient to cause the elements to give way before the joints when a snagging force is applied to the screening. On the other hand, it may be desirable in some situations to select element and joint strength so that joint breakage occurs before element breakage, resulting in a more resilient screen. When a force is applied to this type of screening, the element stays intact while the bonds break or slip. The force on the element is then distributed to the other adjacent bonds.

FIGS. **21–25** illustrate the screen snag resistance of Samples 1–3 and 5–6 in terms of pounds of force versus displacement of the snag mandrill **1706**. Samples 5 and 6, shown on FIGS. **21** and **22**, respectively, show a relatively smooth curve compared to Samples 1–3, shown on FIGS. **23–25**, respectively. A smooth curve indicates that the joints between elements are very weak or not bonded. Sample 4 would likely have results similar to Sample 6 in FIG. **22**, as the ink coating does not form significant bonds. The joints on Samples 1–3 are much stronger than the joints on Samples 5 and 6. Accordingly, the graph lines on FIGS. **23–25** for Samples 1–3 have several jagged edges. Each sharp drop in the graph corresponds to an element break or a bond break. Sample 2 was able to withstand the largest amount of force of all the samples before an element or bond break.

Size and Spacing of Exemplary Screen Elements

In FIG. **2**, a width or diameter W of the screen elements **70** is illustrated. The width W may be less than about 0.007 inch or 0.0035 inch to fall beneath the visual acuity of a normal viewer at either 24 inches or 12 inches, respectively. The smaller the screen element that meets strength requirements, the less visible will be the insect screening. In another embodiment, W is about 0.001 inch (about 0.0254 mm) to about 0.0015 inch (about 0.0381 mm), or about 0.0012 inch. Stainless steel wire, for example, can be provided in this size range and be sufficiently strong for use in insect screening. Each screen element **70** has a length to span the distance between opposed frame members **50**, **60** (FIG. 1).

The plurality of screen elements **70** includes a plurality of horizontal screen elements **80** and a plurality of vertical screen elements **90**. The horizontal screen elements **80** are spaced apart from each other a distance D_V and the vertical screen elements **90** are spaced apart from each other a distance D_H. The spacing depends on the types of insects the user wishes to exclude. Opening sizes are chosen to exclude the types of insects that the screening is designed to keep out. Preferably, the largest values for D_H and D_V are selected that still exclude the targeted insects, so that transmittance is maximized and reflection is minimized.

A screen mesh that excludes most insects is typically constructed with a D_V and D_H of about 0.040 inch (about 1.016 mm) or 0.050 inch (about 1.27 mm). For a screen mesh for excluding smaller insects, like gnats or no-see-ums, a smaller mesh opening is necessary, such as a square opening with a D_H and D_V of about 0.037 or 0.04 inch (about 1 mm).

In embodiments of the present invention, D_H and D_V may be less than about 0.060 inch (about 1.523 mm), less than about 0.050 inch (about 1.27 mm), less than about 0.040 inch (about 1.016 mm), or less than about 0.030 inch (about 0.7619 mm). D_V and D_H may be equal to form a square opening, or they may differ so that the mesh opening is rectangular. For example, D_V may be about 0.050 inch (about 1.27 mm) while D_H is about 0.040 inch (about 1.016 mm). All other permutations of the above mentioned dimensions for D_H and D_V are also contemplated. Typically, the vertical

and horizontal screen elements are positioned to be perpendicular to each other and aligned with the respective frame members.

TABLE 3

Dimension Data for Examples

Screen Sample	Experimentally Measured Percent Black Area	Percent Open Area	Avg. Element Diameter (mm) +/- 0.002	Avg. Element Diameter (mils) +/- 0.08	Avg. Coating Thickness (mm) +/- 0.001	Avg. Coating Thickness (mils) +/- 0.1
1 Black Zn	17.0%	83%	0.039	1.5	0.004	0.15
2 Flat Paint	19.6%	80.4%	0.045	1.8	0.007	0.28
3 Glossy Paint	18.4%	81.6%	0.042	1.7	0.006	0.24
6 Stainless Steel Base	14.1%	85.9%	0.033	1.3	—	—

Table 3 below lists experimentally measured screen element dimensions for Samples 1–3 and 6. The percent black area is the percentage of the screening that is occupied by the screen elements. The percent open area and the black area add 100 for a specific screening.

The experimental measurements of Samples 1–3 and 6 in Table 3 were measured by backlighting a sample of each screening and taking a digital photograph. The percent of black area on the photo image was then measured using image analysis software. Knowing the number of elements that were present in each image and the dimensions of the sample, the average coated element thickness was calculated for column 3. For each of Samples 1–6, the underlying uncoated element has a diameter of 0.0012 inch, so this amount was subtracted from the coated element diameter of column 3 to arrive at the average coating thickness of columns 4 and 5.

The PVD CrC coating of Sample 5 and the ink coating of Sample 4 are too thin to be reliably measured by this experimental technique. Based on the deposition technique, the coating of Sample 5 is estimated to be about 0.02 mils (0.5 μm). Because this coating and the ink coating are extremely thin, the percent black area for Samples 4 and 5 are roughly equivalent to the uncoated Sample 6.

The plurality of horizontal and vertical screen elements **80**, **90** can be constructed and arranged to form a mesh where a horizontal screen element intersects a vertical screen element perpendicularly. The intersecting horizontal and vertical screen elements **80**, **90** may be woven together. Optionally, the intersecting horizontal and vertical screen elements **80**, **90** are bonded together at their intersections, as described in more detail below with respect to coating alternatives.

Materials for the Screen Mesh

In order to provide a material for the screening **30** that will withstand the handling that is associated with screen use, several factors are important, such as the screen element diameter and the ultimate tensile strength of the material. In addition, other factors are considered in selecting a material, such as the coefficient of thermal expansion, the brittleness, and the plasticity of a material. The coefficient of thermal expansion is significant because expansion or contraction of the screen elements due to temperature changes may alter the normal alignment of the horizontal and vertical screen elements, thereby leading to visible distortion of the screening.

In one embodiment, materials from the categories of glass fibers, metals or polymers meet the requirements for screen element strength at the desired diameters, such as steel, stainless steel, aluminum, aluminum alloy, polyethylene, ultra high molecular weight polyethylene, polyester, modified nylon, polyamide, polyaramid, and aramid. One material that is particularly suited for the screen elements is stainless steel. The high tensile strength of about 162 Ksi and low coefficient of thermal expansion of about $11\times10^{-6}K^{-1}$ for stainless steel are desirable.

Coating or Finish Alternatives

The surface **100** of the screen elements **70** is a dark, non-reflective, and preferably dull or matte finish. A dark non-reflective, dull or matte finish is defined herein to mean a finish that absorbs a sufficient amount of light such that the screen mesh **30** appears less obtrusive than a screen mesh **30** without such finish. The dark non-reflective or matte finish may be any color that absorbs a substantial amount of light, such as, for example, a black color. The dark non-reflective or matte finish can be applied to the screen element surface **100** by any means available such as, for example, physical vapor deposition, electroplating, anodizing, liquid coating, ion deposition, plasma deposition, vapor deposition, and the like. Liquid coating may be, for example, paint, ink, and the like.

For example, a PVD chromium carbide coating or black zinc coating may be applied to the screen elements in one embodiment. The black zinc coating is prefered to the CrC coating because it is rougher, more matte, and less shiny. Alternatively, glossy or flat black paint or black ink may be applied to the screen elements. The flat paint coating is preferred to the glossy paint coating because it is less reflective. Other carbides can also be used to provide a dark finish, such as titanium aluminum carbide or cobalt carbide.

The use of a coating on the screen elements may provide the additional advantage of forming a bond at the intersections of the screen elements. A coating of paint provides some degree of adhesion of the elements at the intersections. Some coatings such as black zinc create bonds at the intersections of the elements. The coating thickness and overall element diameter for Samples 1–3 and 5–6 are listed in Table 3 above.

The improved screening materials of the invention typically comprise a mesh of elements in a screening material. The elements comprise long fibers having a thin coating disposed uniformly around the fiber. The coating comprises the layer that is about 0.10 to 0.30 mils (about 0.00253 to 0.0076 mm), preferably about 0.15 mils (about 0.0038 mm). Virtually any material can be used in the coating of the invention that is stable to the influence of outdoor light, weather and the mechanical shocks obtained through coating manufacture, screen manufacture, window assembly,

storage, distribution and installation. Such coatings typically have preferred formation technologies. The coatings of this invention, however, can be made using aqueous or solvent based electroplating, chemical vapor deposition techniques and the application of aqueous or solvent based coating compositions having the right proportions of materials that form the thin durable coatings of the invention. Both organic and inorganic coatings can be used. Examples of organic coatings include finely divided carbon, pigmented polymeric materials derived from aqueous or solvent based paints or coating compositions, chemical vapor deposited organic coatings and similar materials. Inorganic coating compositions can include metallic coatings comprising metals such as aluminum, vanadium, chromium, manganese, iron, nickel, copper, zinc, silver, tin, antimony, titanium, platinum, gold, lead and others. Such metallic coatings can be two or more layers covering the element and can include metal oxide materials, metal carbide materials, metal sulfide materials and other similar metal compounds that can form stable, hard coating layers.

Chemical vapor deposition techniques occur by placing the screening or element substrate in an evacuated chamber or at atmosphere and exposing the substrate to a source of chemical vapor that is typically generated by heating an organic or inorganic substance causing a substantial quantity of chemical vapor to fill the treatment chamber. Since the element or screening provides a low energy location for the chemical vapor, the chemical vapor tends to coat any uncoated surface due to the interaction between the element and the coating material formed within the chamber.

In electroplating techniques, the element or screening is typically placed in an aqueous or solvent based plating bath along with an anode structure and a current is placed through the bath so that the screen acts as the cathode. Typically, coating materials are reduced at the cathode and that electrochemical reduction reaction causes the formation of coatings on the substrate material.

Applications for the Insect Screen

The screening **30** can be used with or without a frame **20** in certain applications, such as in a screen porch or pool enclosure. The insect screen **10** can be used in conjunction with a fenestration unit **110**, such as a window or door. The insect screen **10** may be used in any arrangement of components constructed and arranged to interact with an opening in a surface such as, for example, a building wall, roof, or a vehicle wall such as a recreational vehicle wall, and the like. The surface may be an interior or exterior surface. The fenestration unit **110** may be a window (i.e. an opening in a wall or building for admission of light and air that may be closed by casements or sashes containing transparent, translucent or opaque material and may be capable of being opened or closed), such as, for example, a picture window, a bay window, a double-hung window, a skylight, casement window, awning window, gliding window and the like. The fenestration unit **110** may be a doorway or door (i.e. a swinging or sliding barrier by which an entry may be closed and opened), such as, for example, an entry door, a patio door, a French door, a side door, a back door, a storm door, a garage door, a sliding door, and the like.

The above specification, examples and data provide a complete description of the manufacture and use of the composition of the invention. Since many embodiments of the invention can be made without departing from the spirit and scope of the invention, the invention resides in the claims hereinafter appended.

We claim:

1. A reduced visibility insect screening in a fenestration unit that permits ventilation therethrough having a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

2. The insect screening of claim **1** wherein the transmittance of the screening is at least 0.80.

3. The insect screening of claim **2** wherein the reflectance of the screen is 0.02 or less.

4. The insect screening of claim **1** wherein the reflectance of the screening is 0.03 or less.

5. The insect screening of claim **1** wherein the reflectance of the screen is 0.02 or less.

6. The insect screening of claim **1** having an open area of at least 75%.

7. The insect screening of claim **1** having an open area of at least 80%.

8. The insect screening of claim **1** comprising a plurality of screen elements, each screen element having a diameter less than 0.005 inch.

9. The insect screening of claim **8** wherein the screen elements have a tensile strength greater than 5500 psi.

10. The insect screening of claim **9** wherein the screen elements define mesh openings having a largest dimension not greater than 0.060 inch.

11. The insect screening of claim **1** comprising a plurality of screen elements, each screen element having a tensile strength greater than 5500 psi.

12. The insect screening of claim **1** wherein the screen elements define mesh openings having a largest dimension not greater than 0.060 inch.

13. The insect screening of claim **1** comprising a metal selected from the group consisting of steel, stainless steel, aluminum and aluminum alloy.

14. The insect screening of claim **1** comprising a polymer selected from the group consisting of polyethylene, polyester and nylon.

15. The insect screening of claim **1** comprising an ultra high molecular weight polyethylene.

16. The insect screening of claim **1** comprising an amide selected from the group consisting of polyamide, polyaramid and aramid.

17. The insect screening of claim **1** comprising a dark coating.

18. The insect screening of claim **1** comprising a coating selected from the group consisting of physical vapor deposited chromium carbide and electroplated black zinc.

19. The insect screening of claim **1** comprising a plurality of screen elements, where each screen element includes:

stainless steel; and

a coating having a thickness of about 0.10 to 0.30 mils.

20. The insect screening of claim **1** comprising a plurality of screen elements, where each screen element includes:

stainless steel; and

a coating including electroplated black zinc.

21. A reduced visibility insect screen comprising:

a frame defining a frame opening; and

the screening of claim **1** attached to the frame around the frame opening.

22. An insect screening material in a fenestration unit that permits ventilation therethrough having reduced visibility, comprising a plurality of screen elements having a diameter of 0.007 inch or less, the screen elements having a tensile strength greater than 5500 psi, wherein the screening has a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

23. A reduced visibility insect screen comprising:

a frame defining a frame opening; and

the screening material of claim **22** attached to the frame around the frame opening.

24. The screening of claim **22** wherein the screening material defines mesh openings having a largest dimension not greater than 0.060 inch.

25. The screening material of claim **22** wherein the transmittance of the screening is at least 0.80.

26. The screening material of claim **25** wherein the reflectance is 0.02 or less.

27. The screening material of claim 22 wherein the reflectance of the screening is 0.03 or less.

28. The screening material of claim 22 wherein the reflectance is 0.02 or less.

29. The screening material of claim 22 wherein the screening has an open area of at least 75%.

30. The screening material of claim 22 wherein the screen elements comprise a metal selected from the group consisting of steel, stainless steel, aluminum and aluminum alloy.

31. The screening material of claim 22 wherein the screen elements comprise a polymer selected from the group consisting of polyethylene, polyester and modified nylon.

32. The screening material of claim 22 wherein the screen elements comprise an ultra high molecular weight polyethylene.

33. The screening material of claim 22 wherein the screen elements comprise an amide selected from the group consisting of polyamide, polyaramid and aramid.

34. The screening material of claim 22 wherein the screen elements comprise a dark coating.

35. The screening material of claim 22 wherein the screen elements comprise a coating selected from the group consisting of physical vapor deposited chromium carbide and electroplated black zinc.

36. The screening material of claim 22 wherein each screen element comprises:

stainless steel; and

a coating having a thickness of about 0.10 to 0.20 mils.

37. The screening material of claim 22 wherein each screen element comprises:

stainless steel; and

a coating including electroplated black zinc.

38. A screening in a fenestration unit that permits ventilation therethrough comprising:

a plurality of screen elements having a diameter of 0.007 inch or less; and

a coating on the screen elements having a dark finish;

wherein the screening has a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

39. The screening of claim 38 wherein the screen elements have a tensile strength greater than 5500 psi.

40. The screening of claim 38 wherein the coating has a thickness of 0.10 to 0.30 mils.

41. An insect screen having reduced visibility, comprising:

a frame defining a frame opening; and

the screening of claim 38 attached to the frame around the frame opening.

42. The screening of claim 38 wherein the screening defines mesh openings having a largest dimension not greater than 0.060 inch.

43. The screening of claim 38 wherein the transmittance of the screening is at least 0.80.

44. The screening of claim 43 wherein the reflectance of the screening is 0.02 or less.

45. The screening of claim 38 wherein the reflectance of the screening is 0.03 or less.

46. The screening of claim 38 wherein the reflectance of the screening is 0.02 or less.

47. The screening of claim 38 wherein the screening has an open area of at least 75%.

48. The screening of claim 38 wherein the screen elements comprise a metal selected from the group consisting of steel, stainless steel, aluminum and aluminum alloy.

49. The screening of claim 38 wherein the screen elements comprise a polymer selected from the group consisting of polyethylene, polyester and modified nylon.

50. The screening of claim 38 wherein the screen elements comprise an ultra high molecular weight polyethylene.

51. The screening of claim 38 wherein the screen elements comprise an amide selected from the group consisting of polyamide, polyaramid and aramid.

52. The screening of claim 38 wherein the coating is selected from the group consisting of physical vapor deposited chromium carbide and electroplated black zinc.

53. The screening of claim 38 wherein each screen element includes stainless steel and the coating has a thickness of about 0.10 to 0.20 mils.

54. The screening of claim 38 wherein each screen element includes stainless steel and the coating includes electroplated black zinc.

55. The insect screening of claim 1 comprising a plurality of screen elements, each screen element having a diameter less than 0.007 inch.

56. The insect screening of claim 22 comprising a plurality of screen elements, each screen element having a diameter less than 0.005 inch.

57. The insect screening of claim 38 comprising a plurality of screen elements, each screen element having a diameter less than 0.005 inch.

58. The insect screening of claim 1 wherein the fenestration unit is a window.

59. The insect screening of claim 22 wherein the fenestration unit is a window.

60. The insect screening of claim 38 wherein the fenestration unit is a window.

61. The insect screening of claim 1 wherein the fenestration unit is a door.

62. The insect screening of claim 22 wherein the fenestration unit is a door.

63. The insect screening of claim 38 wherein the fenestration unit is a door.

64. The insect screening of claim 1 comprising a plurality of intersecting screen elements, wherein the screen elements are bonded at their intersections.

65. The insect screening of claim 22 comprising a plurality of intersecting screen elements, wherein the screen elements are bonded at their intersections.

66. The insect screening of claim 38 comprising a plurality of intersecting screen elements, wherein the screen elements are bonded at their intersections.

67. A method of screening insects comprising:

providing a reduced visibility insect screening having a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less; and,

mounting the screening in an insect screen frame.

68. The method of claim 67 wherein the insect screen frame is disposed in an opening of a building structure, in a window, in a window frame, in a door, or in a door frame.

69. The method of claim 67 wherein a window or a door is disposed in the opening.

70. A method of screening insects comprising:

providing a reduced visibility insect screening having a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less; and,

spanning the screening across an opening of a building structure.

71. The method of claim 70 wherein the building structure forms a frame for an insect screen.

72. The method of claim 71 wherein the insect screen frame is disposed in a window, in a window frame, in a door, or in a door frame.

73. The method of claim 70 wherein a window or door is disposed in the opening.

74. A reduced visibility insect screening spanning an opening of a building structure that permits ventilation therethrough having a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

75. A reduced visibility insect screening in a frame removably attached to a fenestration unit that permits ven-

tilation therethrough having a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

76. An insect screening material in a frame removably attached to a fenestration unit that permits ventilation therethrough and having reduced visibility, comprising a plurality of screen elements having a diameter of 0.007 inch or less, the screen elements having a tensile strength greater than 5500 psi, wherein the screening has a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

77. A screening in a frame removably attached to a fenestration unit that permits ventilation therethrough comprising:

a plurality of screen elements having a diameter of 0.007 inch or less; and

a coating on the screen elements having a dark finish;

wherein the screening has a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

* * * * *

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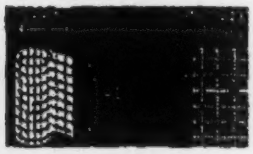

Technical Information [High Transparency Wire Mesh]

These "optical grade" precision stainless steel meshes are used for manufacturing shielded CRT screens and transparent radio frequency (RF) shielded windows and in TEMPEST HERF EMI EMP mesh applications

These meshes are produced using highly sophisticated wire drawing and weaving technologies. Stainless steel T304 rod is drawn to an extremely smooth close tolerance wire many times finer a single strand of human hair. A computer-controlled loom weaves this into the world's most del metal fabric.

The result is a highly transparent, uniform mesh. It is used in shielded windows and cathode ray tubes (CRT's). Our mesh qualifies as "optical grade". It requires great care in handling. This mat is woven to ISO 9044.

Closeouts, overstocks, and discount high transparency wire meshes may be available.

Sample Policy: There is a charge of $12.50 for the first sample and additional samples are $5.(each. This price includes shipping via U.S. Priority Mail or Global Priority Mail.
High Transparency wire mesh sample size is 3 inch x 3 inch
Credit cards only please.

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High Transparency Wire Mesh Data

Mesh Per Inch	Wire Dia. Inches	Opening Inches	Opening Microns	Open Area %	Weave Type	Weight LBS Per 100 SFT	Roll Width Inches	Part #	Pr
50	0.0012	0.0188	477	88	PSW	0.39	48	050X050S0012W48T	[
80	0.0012	0.0113	287	82	PSW	0.61	48	080X080S0012W48T	[
100	0.0011	0.0089	226	79	PSW	0.76	48	100X100S0011W48T	[

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TWP Inc., 2831 Tenth Street, Berkeley, CA 94710 USA

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No. 08-1209

In The
Supreme Court of the United States

PELLA CORPORATION AND
W.L. GORE & ASSOCIATES, INC.,

Petitioners,

v.

ANDERSEN CORPORATION,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF IN OPPOSITION

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COUNTERSTATEMENT OF QUESTION PRESENTED

In 2002, Andersen Corporation solved a problem that had been plaguing the window and insect-screen industry for over one hundred years by inventing a reduced visibility insect screen. On summary judgment, the district court concluded that Andersen's invention was obvious. But the United States Court of Appeals for the Federal Circuit—recognizing that the prior art taught away from the invention and that many secondary considerations also favor Andersen—analyzed the issue of obviousness in detail under this Court's decisions in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), and other cases and reversed the district court, holding that material questions of fact exist regarding obviousness. Should this Court grant certiorari to review the Federal Circuit's reversal of summary judgment and, if so, is summary disposition by this Court appropriate in light of the disputed facts?

RULE 14.1(b) AND RULE 29.6 STATEMENT

Respondent Andersen Corporation has no parent company and no publicly held company owns 10% or more of Andersen Corporation's stock.

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STATEMENT OF THE CASE

This case is not a candidate for summary disposition under this Court's Rule 16.1—as the Petitioners request—nor is it a case for granting review on the merits. The facts are not "undisputed," as the Petitioners claim. But more to the point, the Federal Circuit's decision to vacate the district court's summary judgment on the issue of obviousness and remand for a trial does not conflict with this Court's decision in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). The Federal Circuit's decision closely adheres to this Court's decision in *KSR*, to which the Federal Circuit referred throughout its opinion. The Petitioners gloss over many points of the lower court's analysis in their effort to convince this Court that it should grant their petition.

I. Andersen invents a reduced visibility insect screen

In the early 2000s, Respondent Andersen Corporation, the largest window and patio-door manufacturer in the United States, invented a reduced visibility insect screen. This invention solved a problem that had existed in the insect-screen and window industry for decades—making unsightly insect screens, which detract from the view out a window, less visible. After applying for patents on the technology, Andersen displayed a prototype of the invention in a secured, restricted-access location at a trade show for home builders in 2002. [redacted]

[redacted] In 2003, Gore applied for patents covering Andersen's invention, telling the Patent Office that there was a long-felt need for a reduced visibility insect screen and explaining the unexpected and surprising results the invention achieved. In 2004, Pella began selling its own less-visible insect screen, which it called VividView® and which is the infringing product in this case. Pella's screening material is manufactured by Gore.

A. The problem with conventional insect screens before Andersen's invention

Before Andersen's breakthrough invention, many companies sold insect screens. To serve their intended purpose, insect screens had to be durable: insect screens are subjected to high winds, high humidity, acidity, excessive direct sunlight, hail, sleet, snow, wind-blown debris, extreme temperatures, heavy rains, and corrosion from salt in the air. JA03576-77; JA03954-55.[1] Animals, jewelry, and children pose a

[1] Because Pella and Gore contend that this case presents a candidate for summary disposition under Rule 16.1, Andersen includes a detailed factual recitation in this brief, with citations to the Joint Appendix in the Federal Circuit. Despite their request for summary disposition, the Petitioners make no effort

(Continued on following page)

continual threat of damage to insect screens. JA06640; JA06833-34. To survive these elements and still permit ventilation while excluding insects, conventional insect screens typically consist of thick wires or fibers, woven in a grid pattern with horizontal and vertical elements. JA00039. Conventional insect screens most often had "18 elements per inch in one direction and 16 elements per inch the other direction, often expressed as being a 18 x 16 mesh," or having an 18 x 16 mesh count. JA00038. Common element diameters for these insect screens are 0.011 or 0.009 inch. *Id.* Manufacturers secure the insect screening material into a frame that is installed in a fenestration unit (a window or door). JA00039.

Once installed, conventional (prior art) insect screens obscured the view from inside a building looking out and darkened the view from the outside looking in. JA00038; JA04797. Although many other companies that sell insect screens have existed since the early 1900s, none of these companies manufactured or sold reduced visibility insect screens. JA03452, JA03508-09; JA03291-92; JA03305-06.

[redacted]

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to present all of the pertinent facts, nor do they construe the record in the light most favorable to Andersen, which they should do. They are asking this Court, as a failed movant for summary judgment, to grant certiorari review and summarily reverse the Federal Circuit's decision.

[redacted]

JA08072.

Before Andersen's invention, Pella, operating as the Rolscreen Company in 1925, tried to solve the problem of the visibility of conventional insect screens by rolling the screens up to the top of the window, removing them from sight. JA06410; JA06801. Other insect-screen manufacturers darkened screens in an attempt to make them less visible. JA0354-58. But dark insect screens dimmed the light from the window and did not solve the problem. JA00038. Many other companies made attempts to reduce the visibility of insect screens but also failed. [redacted] JA07620; JA07648-49; JA03995-98; JA00977; JA06464. Others, for example, tried a transparent film with perforations for ventilation, but this distorted the view rather than improving it. JA03997-98; JA02154-56; JA04464-65.

B. Andersen solved the problem that no one else could solve

Andersen began trying to make a reduced visibility insect screen in the early 2000s, as part of what Andersen called its Project Odyssey. JA04797; JA04628. Andersen first turned to its insect screen supplier, AMSCO, for help in developing an invisible insect screen. JA03390; JA03923-24; JA04464; AMSCO

tried to make an invisible insect screen out of clear fishing line, and also tried and tested a clear film material perforated with holes for ventilation. JA03995-98; JA04464-65; JA03990. In the end, both approaches failed, and AMSCO was unable to invent a reduced visibility insect screen. JA03990; JA03995.

Andersen then turned outside of the insect-screen and window industry to explore the problem. JA03990. Aspen Research, an Andersen subsidiary and "think tank" employing scientists with advanced degrees in chemistry, took the lead. JA04612; JA03989-90. Four chemists from Aspen Research ("the inventors") were tasked to solve the problem. JA04613; JA04671; JA04677; JA04796; JA04615. Told that Andersen essentially sought a force field that would repel insects, they began their investigation. JA04677. They studied a wide variety of materials, including metal screens, safety screens, pet screens, tree netting, and gnat screens, as well as different fabric materials like nylon. JA04629. They contacted Andersen's suppliers and other companies in the insect-screen business and searched the Internet for any available options. *Id.* Despite their efforts, the inventors learned of no earlier or existing insect screen that had the properties they were seeking, not even from Andersen's competitors and screen suppliers, including some decades-long fixtures in the industry. JA04679.

Through one of their increasingly-exhaustive Internet searches, the inventors located TWP, Inc.'s website. JA04634. Founded in the 1960s, TWP

distributes a wide-variety of materials, including specialty meshes. JA05217-18; JA06375. One of those specialty meshes is a fine, electromagnetic-shielding mesh. JA06375. Electromagnetic-shielding mesh materials shield electronic equipment from radio frequency electromagnetic interference in computer screens, MRI equipment, cathode ray tubes, and space shuttles. JA06375; JA05227. Some electromagnetic-shielding mesh is very fine, with many thin wires woven tightly together. TWP sells a fine, electromagnetic-shielding mesh with a 50 x 50 mesh count (meaning it has 50 wires/inch in both directions) and 0.0012 inch wire diameter. JA06375. TWP has been selling this electromagnetic-shielding mesh since at least as early as 1996, when TWP first started its website. JA05225; JA05237.

TWP's website advertised this fine, electromagnetic-shielding mesh as "the world's most delicate metal fabric," requiring "great care in handling." JA06375. TWP's website explained that the wire diameter is "many times finer than a single strand of human hair." *Id.* This electromagnetic-shielding mesh is delicate, easily damaged, and expensive; in use, it is sandwiched between glass or placed behind glass or a different material for protection. JA03985-86; JA05227; JA04680; JA06753; JA05228. [redacted] JA05227; JA05233.

TWP sold insect screening in another area of its website, but never connected the two. It did not advertise its electromagnetic-shielding mesh as insect screening and never thought to use it as insect screening. JA06373; JA06375. [redacted] JA05236-37; JA05231-32. [redacted] JA05232.

After locating this fine, electromagnetic-shielding mesh, the inventors ordered samples and began testing it. JA04635. The inventors noted that TWP's mesh consisted of very delicate wires that needed structural support. JA06752. It was polished, and had a high reflectance. JA06753-54. It was also very expensive and was not bonded at its intersections. JA03985-86; JA04639; JA04692; JA06377. Even with these flaws, the inventors still realized they were "onto something." JA04637.

The inventors modified the TWP electromagnetic-shielding mesh to develop insect-screen prototypes. JA04637; JA04638. After they installed the TWP electromagnetic-shielding mesh into a frame it was still very visible and shiny. JA04637. It was also still very fragile. *Id.* The inventors discovered that if they could bond the mesh's intersections with a coating

that would also darken the screen, they could make the mesh stronger and simultaneously reduce the glare and visibility. JA04692-93; JA04637-38. After darkening the TWP electromagnetic-shielding mesh and installing it in a frame for a fenestration unit, the inventors began the process of patenting their invention. JA04638; JA04639.

C. Andersen received patents for its invention

In February 2002, Andersen started applying for patents on its invention. JA00014; JA04639. On April 17, 2005, the United States Patent Office issued Andersen's Patent No. 6,880,612, which is the patent at issue here.[2] The '612 patent extensively describes the TWP electromagnetic-shielding mesh that the inventors located. JA00041-44. The specification teaches how the inventors changed the mesh to create an invisible insect screen. JA00041. It further teaches the transmittance and reflectance of the TWP electromagnetic-shielding mesh when covered with different coatings and colors, and how to coat the mesh to make it stronger and less visible. JA00041-44. The specification also teaches how the inventors'

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[2] The parent application to the '612 patent, which resulted in Andersen's United States Patent No. 6,763,875 (unasserted), was filed on February 6, 2002. JA00048-53. On February 9, 2004, the examiner allowed the claims of the '875 patent. JA01203-07.

modifications improved the mesh's optical properties. *Id.*

On May 6, 2004, the patent examiner initially rejected some of the original claims of the '612 patent as obvious in view of the TWP electromagnetic-shielding mesh in combination with a Japanese patent. JA00185-89. With Andersen's authorization, the examiner amended the claims to add the limitation "in a fenestration unit that permits ventilation therethrough," and allowed the claims. JA00264-69. The examiner explained that he allowed the amended claims because the prior art did not disclose the screen material in combination with the structure of a fenestration unit:

> The prior art does not disclose the screen material which has the structure recited which is used as an insect screen, which is claimed by way of reciting either the screen in combination with the structure of a fenestration unit or building structure or by reciting the method of using the screen material.

JA00269. The '612 patent issued on April 19, 2005, with "in a fenestration unit that permits ventilation therethrough" added as a limitation to every claim. JA00045-47. Exemplary claim 22 reads as follows:

> An insect screening material in a fenestration unit that permits ventilation therethrough having reduced visibility, comprising a plurality of screen elements having a diameter of 0.007 inch or less, the screen

> elements having a tensile strength greater than 5500 psi, wherein the screening has a transmittance of light of at least 0.75 and a reflectance of light of 0.04 or less.

JA00045.

II. Pella and Gore recognize Andersen's invention as a breakthrough; they copy it and Gore tries to patent it

At a trade show for home builders in 2002, as mentioned above, Andersen displayed the reduced visibility insect screen prototypes in a secured, restricted-access location in its booth, and allowed only attendees with invitations and proper identification to view the insect screens in the protected area. JA04686; JA05983; JA06770-71. The invisible insect screens were Andersen's "biggest hit," and many buyers were anxious to learn when they could purchase it. JA04638; JA04639. Others were so amazed that they did not believe that an insect screen was in the window. JA04857.

[redacted]

JA05983. [redacted]

[redacted] JA05983-85. [redacted]

[redacted] *Id.* [redacted]

Id.

[redacted] JA04311; JA06770-74; JA06824; JA07521-23. [redacted] JA06010-12. [redacted] JA06011. [redacted] JA06817-18; JA06820-23.

In August 2004, Pella began selling its Vivid-View® reduced visibility insect screens. JA04112-13; JA06795-96. [redacted] JA06003-04. [redacted]

[redacted] *Id.*

[redacted] JA06830. Pella touted its infringing VividView® insect screen as "virtually invisible," "unique," and "revolutionary," allowing for a view that is "crisper and clearer than ever before." JA06644; JA06646; JA04119-20.

Andersen's invention and its reduced visibility insect screen impressed Gore so much that Gore instituted efforts to obtain its own patents on an "Insect Screen with Improved Optical Properties" starting in 2003. JA01813. Gore declared under oath to the United States Patent and Trademark Office that there was "a long-felt need" for an invisible insect screen, JA06464, JA06421, and described the surprising results and favorable customer reactions to its infringing installed reduced visibility screen: "The surprising results achieved by applicant's invention are undeniable." JA06492. In fact, "it is difficult to overstate the excitement the transparency of the Gore Screen caused. Comments like 'amazing' and 'unreal' were typical." JA06498. In its patent applications, Gore admits that there was "a long-felt need" for an "invisible screen" and that many of its infringing product's features yield quite a surprising result:

> There are ***long-felt needs*** associated with current insect screen technology. These include the needs for improvement to optical transmission characteristics and airflow characteristics. In particular, there has been a ***long-felt need*** in the industry for an "invisible screen," one that is less visible and hence less obstructive of the view through the screen. It is ***surprising*** that using smaller fibers for the screen construction would be effective because more fibers would be needed to provide the same hole sizes, thus not providing any real improvement in visibility.

JA06421; JA06464 (emphasis added). Gore also stressed the surprising results and the favorable customer reactions its infringing product (which its patent application is intended to cover) garnered. In total, Gore asked the Patent Office six times for a United States patent and applied in Europe once. JA06507. Despite the positions Gore has taken during this litigation, Gore still maintains pending patent applications for a reduced visibility insect screen.

III. District-Court proceedings

On April 25, 2005, Andersen sued Pella and its supplier Gore for infringement of the '612 patent. JA01292-96. In late 2006, Pella and Gore moved jointly for summary judgment on the invalidity of then-asserted claims 12, 22-29, 55, 59, 65, and 76 of the '612 patent. JA01884-85. In an order filed on

October 2, 2006, the district court denied the motion, holding that genuine issues of material fact and law remained that precluded summary judgment. Pet. App. 36-37; JA08302; JA08386. After that initial summary-judgment motion, Andersen withdrew claims 12, 25, 26, 29, and 55 of the '612 patent from the suit. JA08423-24.

In 2007, a few weeks before trial, after this Court issued its opinion in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), Pella and Gore asked the district court to reopen summary-judgment proceedings in light of the decision in *KSR*. JA08490. The district court agreed and asked both sides to simultaneously exchange and file 10-page briefs on the issue. JA08490. Pella and Gore's brief addressed only the question of whether Andersen's invention was obvious in light of TWP's electromagnetic-shielding mesh. In its brief, Andersen pointed out that the electromagnetic-shielding mesh from TWP is missing the following elements from the asserted claims:

- an insect screening material in a fenestration unit that permits ventilation through the unit (all asserted claims);
- a reflectance of light of 0.04 or less (all asserted claims);
- a frame defining a frame opening; and the screening material of claim 22 attached to the frame around the frame opening;

- a reflectance of light of 0.03 or less (claim 27);
- a reflectance of light of 0.02 or less (claim 28); and,
- wherein the screen elements are bonded at their intersections (claim 65).

JA08670-71. Andersen argued that these significant and numerous differences and issues precluded summary judgment on the basis of the TWP reference. JA08669-71. Andersen also argued that the prior art and knowledge of someone of skill in the art taught away from starting with the TWP electromagnetic-shielding mesh, modifying it, and combining it with a fenestration unit. JA08668-69. Additionally, Andersen argued the overwhelming secondary considerations of nonobviousness, including the long-felt need, the failure of others, the unexpected results of Andersen's invention, copying by Pella and Gore, attempts to patent the invention by Gore, as well as praise by others, created genuine issues of material fact related to obviousness. JA08672-75.

Despite these arguments and issues, on July 31, 2007, the district court vacated its earlier order denying summary judgment and entered an order stating that "[t]he claims of [Andersen's] patent are obvious; thus, the patent is invalid as a matter of law." Pet. App. 32. Overreacting to *KSR*, the district court improperly relied on hindsight and the teachings of Andersen's patent to find the asserted claims obvious. Nothing about the directives of *KSR*

should have overshadowed the existence of genuine issues of material fact regarding whether someone of ordinary skill in the art would have started with or modified the TWP electromagnetic-shielding mesh when faced with the problem of making an insect screen with reduced visibility. In Andersen's view, the district court failed to construe all of the evidence in the light most favorable to Andersen. The district court also gave no consideration to overwhelming evidence of secondary considerations of nonobviousness and, instead, wrongly focused on the patent's teachings and invention story as its basis for invalidating the '612 patent claims in issue.

IV. Federal-Circuit proceedings

On November 19, 2008, the United States Court of Appeals for the Federal Circuit, in a lengthy unpublished opinion, vacated the judgment of the district court and remanded this matter for further proceedings. Pet. App. 1-19. The Federal Circuit concluded that genuine issues of material fact exist regarding whether someone of ordinary skill in the art—that is, someone who manufactures insect screens with no understanding of optics and physics —would have looked to TWP's electromagnetic-shielding mesh as material for a reduced visibility insect screen. Pet. App. 8. The Federal Circuit explained that the combination of the fact that TWP's mesh was not part of the field of the invention and that TWP's mesh actually taught away from the invention, "combined with the deference owed to the

PTO's issuance of this patent after reviewing the same prior art references that form the basis of this obviousness challenge, raises a genuine issue of material fact as to whether an ordinarily skilled insect screen designer would have found the combination of the TWP mesh with the other prior art references obvious." Pet. App. 9.

REASONS FOR DENYING THE PETITION

In its decision vacating the district court's summary judgment and remanding for further proceedings, the Federal Circuit rigorously applied the rule of law established by this Court. The Federal Circuit's opinion is replete with thoughtful analysis and application of this Court's ruling in *KSR*. Disappointed by the result, Pella and Gore are now looking to this Court for another hearing—another chance to make the same arguments that they made below. But their objective, as Chief Justice Taft explained in 1923, is not the purpose of this Court's certiorari jurisdiction: "The jurisdiction of the Supreme Court to review cases by way of certiorari was not conferred upon this Court merely to give the defeated party in the Circuit Court of Appeals another hearing." *Magnum Import Co. v. Coty*, 262 U.S. 159, 163 (1923).

I. There is no conflict between the Federal Circuit's decision and this Court's ruling in *KSR*

Pella and Gore claim that "[e]very legal reason" given by the Federal Circuit for reversing the district court's summary judgment and remanding this matter for a trial conflicts with the Court's ruling in *KSR*. Pet. at 16. This is a sweeping charge, and one that does not hold up to analysis. The Federal Circuit's decision meticulously follows this Court's decisions on obviousness, including *KSR*. In discussing the Federal Circuit's obviousness analysis, Pella and Gore dismiss the significance of the lower court's findings regarding the scope and content of the prior art. The prior art for the patent at issue in *KSR* did *not* teach away from the invention, and this Court has long held that when prior art *does* teach away from the invention, that is evidence of nonobviousness.

A. In *KSR*, the Court did not reject the Federal Circuit's TSM test but instead required flexibility in the test

This Court has long stated that the "the primary responsibility for sifting out unpatentable material lies in the Patent Office." *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 18 (1965). Issued patents thus benefit from a presumption of validity, and an accused infringer must prove with clear-and-convincing evidence, under Section 103 of the Patent Act, that "the differences between the subject matter

sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a).

In *Graham*, the Court set out an objective framework for analyzing whether or not a claim is obvious under § 103 of the Patent Act. That objective framework—which the Court reaffirmed in *KSR*—involves several factual inquiries: the scope and content of the prior art; the level of ordinary skill in the art; the differences between the claimed subject matter and the prior art; and, many secondary considerations of nonobviousness, such as the commercial success of the invention, any long-felt but unsolved need, and the failure of others. 383 U.S. 1, 17-18 (1966). Hindsight and *ex-post* reasoning are not to enter into the obviousness analysis. *KSR*, 550 U.S. at 421. A factfinder must judge the patentability of the claimed invention at the time of the invention and from the viewpoint of someone of ordinary skill in the art. 35 U.S.C. § 103(a).

Beginning in the early 1960s, the Court of Customs and Patent Appeals and later the Federal Circuit began employing a test in its obviousness analyses to help achieve the "uniformity and definiteness" that *Graham* recognized as desirable in this area of law. This test—commonly known as the teaching, suggestion, or motivation test (or TSM test)—requires that someone challenging a patent as obvious show that the prior art, the problem's nature,

or the knowledge of a person having ordinary skill in the art revealed some motivation or suggestion to combine the prior-art teachings. *KSR*, 550 U.S. at 407. In *KSR*, the Court described the TSM test as a "helpful insight" into the determination of whether a patent is obvious, and the Court also found no "necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis." *Id.* at 419.

Still, the Court concluded in *KSR* that the Federal Circuit in that instance had transformed the general principles of its TSM test into a "rigid rule that limits the obviousness inquiry": "The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published article and the explicit content of issued patents." *Id.* Although critical of the Federal Circuit's application of the TSM test in *KSR*, the Court also observed that "[s]ince the TSM test was devised, the Federal Circuit doubtless has [properly] applied" the test "in many cases." 550 U.S. at 402. In fact, the Court noted that the Federal Circuit had recently applied the TSM test in other cases in the flexible manner required by the Court. *Id.* at 421-22.

B. Here, nothing in the Federal Circuit's analysis conflicts with this Court's obviousness decisions

In this case, the Federal Circuit agreed with the district court that there were no genuine issues of

material fact on two of the primary factors established in *Graham* for determining obviousness: the differences between the claimed subject matter and the prior art, and the level of ordinary skill in the art. But the Federal Circuit disagreed with the district court with respect to the third primary factor—the scope and content of the prior art—*and* with respect to consideration of the many secondary factors that this Court has said can also inform the analysis (the district court gave no consideration to those factors).

The Federal Circuit explained that Andersen had presented evidence in the record that showed that "one, the TWP mesh was not part of the insect screen manufacturing field, and, two, [that] an insect manufacturer would have read the prior art to teach away from using a mesh with the characteristics possessed by the TWP mesh." Pet. App. 9. This evidence, explained the court, combined with the deference owed to the United States Patent and Trademark Office (which had determined that the invention is not obvious in light of the TWP mesh), "raises a genuine issue of material fact as to whether an ordinarily skilled insect screen designer would have found the combination of the TWP mesh with the other prior art references obvious." *Id.*

With respect to the evidence that the TWP mesh was not part of the insect screen manufacturing field, the Federal Circuit explained that TWP's website posted separate links for its insect screens and for the electromagnetic-shielding mesh that was used in the

invention. The part of TWP's website that related to its electromagnetic-shielding mesh described the mesh as "optical grade" for use in shielded windows and cathode ray tubes (CRTs). In contrast, as the Federal Circuit noted, "the 'Insect Screen' webpage noted the 'wide range of industrial and commercial applications' available for insect screening and did not include electromagnetic shielding meshes." Pet. App. 10.

The Federal Circuit specifically acknowledged the admonition of this Court in *KSR* that "common sense might make alternative uses of familiar items obvious and that design incentives and other market forces can prompt variations of a work," but it properly concluded that Andersen had presented evidence that required a jury to decide whether "the electromagnetic-shielding mesh would have been part of the field of invention searched by an insect screen designer and whether such an alternative use would have been obvious." Pet. App. 10. With respect to common sense and obviousness, the Federal Circuit also noted the compelling fact that TWP itself—a company that manufactures insect screens—did not use or think to use its electromagnetic-shielding mesh as an insect screen. This is one fact, as the Federal Circuit explained, that would suggest to a jury "that common sense and the nature of the problem to be solved might not have made it obvious to an insect screen designer to try using the mesh as an insect screen." Pet. App. 11.

With respect to the evidence that an insect manufacturer would have read the prior art as teaching away from using a mesh with the characteristics possessed by the TWP mesh, the Federal Circuit noted correctly that this Court, in *KSR*, cited *United States v. Adams*, 383 U.S. 39, 51-52 (1966), approvingly "for the 'principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." On this point, too, the Federal Circuit specifically recognized this Court's caution in *KSR* "to not be too rigid in applying the TSM test." But the Federal Circuit noted that this Court had still acknowledged the value of teachings as part of the obviousness inquiry: "Recognizing that the Supreme Court in *KSR* cautioned us to not be too rigid in applying the TSM test, we may still consider evidence of teachings to combine (and, presumably, not to combine) because, according to the Supreme Court, they 'capture[ ] a helpful insight' into the obviousness inquiry." Pet. App. at 13-14 (quoting *KSR*, 550 U.S. at 418). (In *KSR*, unlike in this case, there was *no evidence*, as this Court noted, that showed the prior art teaching away from the invention. *KSR*, 550 U.S. at 426.).

Here, the district court gave consideration only to what Pella and Gore argued was teaching-toward evidence and disregarded the teaching-away evidence. Pet. App. 13. The appellate court, on the other hand, properly refused to play the role of the jury. The Federal Circuit concluded that Andersen had

amassed a great deal of evidence that created a "genuine issue of material fact as to whether the durability, transparency, and pricing of the TWP mesh would have discouraged an ordinarily skilled artisan from incorporating the mesh into an insect screen." Pet. App. 11.

With regard to durability, for example, the Court found that "[t]he Sims Patent, a prior art reference also before the PTO examiner, teaches that fine mesh should only be removed from the glass panes if it will not be subject to accidental damage and contact." Pet. App. 11-12. Similar to the invention disclosed in the Sims Patent, the TWP mesh was advertised as the "world's most delicate metal fabric" and as requiring "great care in handling." JA06375. By contrast, insect screens must withstand significant wear and tear from exposure to daily weather conditions and interactions with humans and pets. Prior art thus teaches that "the delicacy of the TWP mesh, its need for special care, and its vulnerability to damage upon contact could discourage an insect screen designer from using it." Pet. App. 12.

With regard to transparency, the Federal Circuit took note of Andersen's evidence that the Sims Patent teaches that fine mesh produces optical *interference*, not invisibility (which is the main objective of the invention), if the wires are too fine. Pet. App. 12. In fact, the Sims Patent teaches to combine two layers of the mesh in an electromagnetic-shielding application, each with different spacing and grid patterns and angled over one another to eliminate the moiré "ghost

effect" that happens when a screen grid is too fine. JA06365-71. The TWP mesh qualifies as just such a "fine mesh"; it is advertised as containing wires that are "many times finer than a single strand of human hair." Thus, the Sims Patent, as the Federal Circuit explained, teaches away from using the TWP mesh to develop a reduced-visibility insect screen and "a person of ordinary skill in the insect screen art arguably would not think that increasing the number of wires in combination with decreasing the diameters of the wires would yield an insect screen with reduced visibility." Pet. App. 12.

The Federal Circuit noted that TWP advertises its electromagnetic-shielding mesh as "highly transparent." But the court correctly decided that a material question of fact exists regarding whether the TWP mesh was "highly transparent" relative to insect screens. Pet. App. 12. Pella and Gore highlight this finding regarding TWP's advertising as an example of the Federal Circuit's failure to follow *KSR*'s direction that the lower courts "need not seek out precise teachings directed to the specific subject matter of the challenged claim" in analyzing obviousness. But Pella and Gore are ignoring the context in which the Federal Circuit's conclusion was drawn—specifically the fact that the prior art teaches away on this exact point. If read in context, it is clear that a true fact question does exist about whether the prior art teaches away as to transparency, in light of the Sims Patent's teaching regarding the distracting effects of fine wire.

Finally, with regard to price feasibility, the Federal Circuit found the fact that the electromagnetic-shielding mesh was "extraordinarily expensive in comparison with traditional insect screen material" raised an issue of whether or not a person of ordinary skill in the art would look to or consider using this mesh in an insect screen. Pet. App. 18. Pella and Gore assign error to this finding on the ground that a price limitation was not included in the '612 patent and that the Federal Circuit did not discuss whether the TWP mesh was "somehow so flawed that there was no reason to upgrade it." Pet. at 24. But the Federal Circuit did not raise this issue as a claim limitation on the '612 patent; it raised it in the context of determining whether a person of ordinary skill in the art would consider using this mesh in an insect screen. Pricing considerations are demands that are known to the design community and common sense dictates that they can reasonably limit the scope of experimentation done by a person of ordinary skill in the art. Similarly, the pricing considerations do not have to render the TWP mesh "somehow so flawed that there was no reason to upgrade it" to make it a nonobvious choice for insect screening. Pella and Gore have cherry-picked this language from the Court's opinion in *KSR,* but, again, when considered in context and not in isolation, this argument fails.

In *KSR*, the issue of price was raised in the context of two adjustable automotive pedals. The patent-holder argued that its adjustable automotive pedal was not obvious in light of a pre-dating adjustable

automotive pedal (which it had not disclosed as prior art in its patent application) because the older model was more expensive. This Court held, absent evidence that the old pedal was so flawed because of this that there was no reason to upgrade it, that the patent was obvious in light of the prior art. The distinction between those facts in *KSR* and the facts in this case are stark.

First, unlike in *KSR*, the TWP mesh was disclosed and explained at length to the PTO before the patent-in-suit issued. Second, unlike in *KSR*, the prior art here is not an older version of the same basic product in the same field. The TWP electromagnetic-shielding mesh had never been used as an insect screen before and it had never been marketed as an insect screen before. It was expensive and taught away from the invention. For reasons such as these, the Federal Circuit correctly found that disputed issues of material facts regarding obviousness made summary judgment inappropriate.

C. The Federal Circuit correctly noted that the PTO proceedings in this case are distinguishable from those in *KSR*

In *KSR*, the United States Patent and Trademark Office had not considered the prior art that ultimately rendered the patent in that case obvious. Here, in contrast, as the Federal Circuit explained, the PTO specifically "considered whether the TWP mesh in combination with other references rendered

obvious the application that issued as the '612 patent." Pet. App. 15. The PTO analyzed TWP's electromagnetic-shielding mesh and also had before it the pages from TWP's website describing the electromagnetic-shielding mesh and its use in "shielded windows and cathode ray tubes." JA00014-16; JA00263-69. The PTO, in other words, fully appreciated the existence of the TWP electromagnetic-shielding mesh when it issued the patent. In fact, the PTO initially rejected the patent application in part on the basis of TWP's mesh. JA00185-89. After amending the claims to include the limitation of "a fenestration unit that permits ventilation therethrough," the PTO agreed that the claims were not obvious and allowed them. JA00259-69.

Pella and Gore acknowledge this difference with *KSR* in passing but they do not want to allow, as a consequence, any deference for the PTO's issuance of the patent. As the Federal Circuit observed, this was a failing of the district court as well: "We also note that, in ruling on summary judgment, the district court was required to view the evidence with an eye towards the burden on Gore and Pella to overcome the deference due to the PTO." Pet. App. 14. Under long-standing precedent, when a prior-art reference was before the PTO, the agency is presumed to have done its job, "'which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.'" Pet. App. 14-15

(quoting *Power-Oasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1304 (Fed. Cir. 2008)). This distinction with *KSR* is yet another reason why the Federal Circuit's decision is not in conflict with *KSR*.

D. The Federal Circuit explained that secondary considerations favor Andersen, which is also unlike *KSR*

Finally, in keeping with *KSR*, the Federal Circuit also addressed secondary considerations of nonobviousness. Pet. App. 16. Secondary considerations of nonobviousness, as the Court explained in *Graham*, "serve to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue." 383 U.S. at 36. Secondary considerations also offer courts critical insight into the circumstances surrounding the invention, as the Court noted in *Graham* and *KSR*. *KSR*, 550 at 421 (quoting *Graham*). In *KSR*, the primary considerations weighed so heavily in support of invalidation of the patent that secondary considerations played no part in the Court's analysis. But the Court reiterated that, "when appropriate," courts should "look at any secondary considerations that would prove instructive." *KSR*, 550 U.S. at 415.

Here, the Federal Circuit also did not need to consider the secondary factors; the material issues of fact raised by the primary factors alone required denial of summary judgment, as the Federal Circuit

explained. Pet. App. 16. Nonetheless, the court noted "that the majority of secondary considerations favored" Andersen's position. Pet. App. 16. The court explained that Andersen had submitted evidence of "long-felt need, the failure of others, the unexpected results, copying by Gore and Pella, and praise by others"—all of which favor a finding of nonobviousness. Pet. App. 16. This evidence included:

- Gore's patent applications, which explicitly discuss "the long-felt need in the industry for an invisible insect screen"[3];
- evidence of the failures of others, including Pella, "to minimize visibility of insect screen by alternative methods";
- Gore's own patent application, in which Gore "acknowledged the 'surprising visual effects of the invention' and the unexpected results of the narrowly woven mesh";
- the praise by others for Andersen's invention, "including by Pella and Gore"; and,

---

[3] To date, the Patent and Trademark Office has not issued Gore a patent for its screens. Gore first filed its patent application on March 31, 2003 (App. No. 10/405,104). On February 13, 2008, Gore filed a continuation in part and abandoned its first application (App. No. 10/779,536). Gore has since filed continuations twice and has abandoned all but its most recent application, which was filed on August 7, 2008. (App. Nos. 11/335,879; 12/187,615).

- Pella and Gore's copying of Andersen's invention.

Pet. App. 16. All of these types of considerations, none of which were present in *KSR*, favored a finding of nonobviousness and encouraged vacating the district court's summary judgment.

II. The Federal Circuit's approach to obviousness is in accordance with *KSR* and does not need reform

This Court issued its opinion in *KSR* in 2007. Pella and Gore imply in their petition that in the two years since that decision the Federal Circuit has developed an institutional disregard for this Court's ruling in *KSR*. As Pella and Gore put it, "[t]he Federal Circuit either cannot or will not control its own case law." Pet. at 25. This is an unsubstantiated if not irresponsible statement. An accusation like that should be supported by *some* description and analysis of the Federal Circuit's decisions involving obviousness after *KSR*. But Pella and Gore make no such effort.

Pella and Gore do not cite a single decision from the Federal Circuit to support their sweeping statement about the Federal Circuit's supposed disregard of the law, and they do not include a word of analysis to support this attack on the lower court. Given the fact that the Federal Circuit is following *KSR*, as shown by the analysis above, there is no reason for this Court to grant the petition to review

what Pella and Gore perceive to be an error—a supposed error that will require nothing more than that the evidence of obviousness be heard at a trial.

III. The petition does not present an important question of law that should be settled by this Court

Pella and Gore assert that this "Court's grant of review in this case will affect every patent case in the United States where obviousness is asserted." Pet. at 2. This sweeping assertion rests on two premises: first, that this case was incorrectly decided by the Federal Circuit under *KSR*; and, second, that the Federal Circuit's narrow decision on these unique facts may be appropriately extrapolated into a rule of law. Both premises are wrong. As explained above, the Federal Circuit's decision properly applies the *KSR* holding and this Court's other decisions regarding obviousness to the facts of this case. Thus, there is no error to correct on review. Further, even assuming *arguendo*, that the Federal Circuit did misapply the rule of law from *KSR*, "a petition for a writ of certiorari is rarely granted when the asserted error consists of erroneous factual findings or the misapplication of a properly stated rule of law." Sup. Ct. R. 10.

If this Court were to grant certiorari, it would not be to consider whether the Federal Circuit misapplied the rule of law from *KSR*. Instead, what Pella and Gore would have the Court do is correct a perceived

factual error, and the decision generated by the Court would likely be limited to the specific facts of this case—and not answer an important question of law.

IV. Summary disposition under Rule 16.1 is not appropriate

Contrary to Pella and Gore's suggestion, this case is *not* suited for summary disposition under Rule 16.1. Summary disposition is rare and exceptional and summary reversals are appropriate only when "full briefing and argument would be a waste of time" because the "lower court result is so clearly erroneous." Eugene Gressman et al., *Supreme Court Practice*, 344 (9th ed. 2007); *see, e.g.*, *Palmer v. BRG of Georgia,* 498 U.S. 46, 48-49 (1990) (summarily reversing lower court finding of no antitrust violation, in direct contradiction to established precedents). Summary disposition is more commonly used when an intervening decision of this Court or some other event such as new legislation prompts the Court to allow the lower court an opportunity to revisit its decision in light of the new information. *See Supreme Court Practice* at 344. Of course, no such circumstances exist in this case.

Here, to support their argument for summary disposition, Pella and Gore rely only on *Major League Baseball Players Ass'n v. Garvey*, 532 U.S. 504 (2001). *See* Pet. at 15-16. Pella and Gore's reliance on *Garvey* is misplaced. In *Garvey*, the Court granted certiorari and summarily reversed and remanded

because the United States Court of Appeals for the Ninth Circuit had ignored clear and long-standing precedent when—in an opinion that this Court described as "nothing short of baffling," 532 U.S. at 510—it reversed a district court and rejected an arbitration panel's findings, remanding the matter to the district court with instructions to remand the matter to the arbitration panel for entry of an award for the appellant in the amount that the appellant had claimed. *Id.* at 508. Here, the Federal Circuit did not ignore the binding precedent of *KSR* and there is nothing "baffling" about its decision. To the contrary, as discussed above, the Federal Circuit extensively analyzed and followed this Court's ruling in *KSR*. No extraordinary circumstances exist for summary disposition.

CONCLUSION

Pella and Gore are disappointed with the Federal Circuit's review of the merits of Andersen's appeal and they are now looking to this Court for another hearing—a third chance to convince a court that they are right. To accomplish this, they have drawn an unfair and unsubstantiated picture of the Federal Circuit's obviousness jurisprudence in general and the result in this case in particular. The purpose of this Court's certiorari jurisdiction is not to allow litigants a third chance for a hearing on the merits for a defendant's motion for summary judgment. The petition for certiorari should be denied.

Date: April 30, 2009

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REPLY BRIEF

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In The
Supreme Court of the United States

PELLA CORPORATION AND
W.L. GORE & ASSOCIATES, INC.,

Petitioners,

v.

ANDERSEN CORPORATION,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

REPLY BRIEF

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REPLY

The Court should summarily reverse the Federal Circuit's decision under Rule 16.1 because it repeats the same legal errors that this Court painstakingly corrected in *KSR Int'l Co.* v. *Teleflex, Inc.*, 550 U.S. 398 (2007). Under the correct legal standard, the simple insect screen at issue in this case is obvious as a matter of law because the only differences between the claimed screen and commercially available TWP wire screening were black paint and a frame—and those were obvious things to add. The alleged factual issues that Respondent raises are legally immaterial. They address secondary considerations that cannot overturn a clear showing of obviousness based on the three primary factors established in *Graham* v. *John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966).

1. Respondent cannot reconcile the Federal Circuit's reliance on three characteristics that are not claimed by the '612 Patent—"durability, transparency, and price feasibility" (App. 13)—with this Court's unambiguous holding in *KSR* that, in measuring obviousness, the claims are all that matters:

> In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.

550 U.S. at 419. Here, it is undisputed that the claims of the '612 Patent extend to an insect screen made from the obvious combination of TWP screening, black paint, and a frame in a door or window. The claims are therefore invalid under § 103.

Respondent argues that the prior art taught away from using TWP screening to make an insect screen because it lacked the ideal qualities of durability, transparency, and price feasibility. The relevant question, however, is not whether it possessed those ideal qualities but whether it possessed the qualities *claimed by the '612 Patent*. *Graham* instructs that courts must measure the "differences between the prior art *and the claims at issue*." 383 U.S. at 17. *KSR* likewise holds that "[w]hat matters is the objective reach of the claim." 550 U.S. at 419. *See also* Pet. 19-20 (citing cases). For teaching away to be relevant, the prior art must teach away from the claimed invention, not something else. *In re Peterson*, 315 F.3d 1325, 1331 (CAFed 2003) (patentee must "show[] that the prior art teaches away from the claimed invention"). Respondent does not cite a single case holding that obviousness may be denied because, although it would have been obvious to use the prior art to make the claimed invention, it would not have been obvious to use it to make a different invention. It is undisputed here that blackened TWP screening had all the qualities required by the '612 Patent claims: (1) the tensile strength, (2) the light transmission and reflectance, (3) the screen element diameter, and (4) the mesh opening dimension. No

claim required the screen to be durable. No claim required it to be transparent. No claim required it to be inexpensive. The Federal Circuit committed clear error by measuring the TWP screening against these unclaimed, idealized qualities instead of against the qualities claimed by the '612 Patent.

The Federal Circuit's decision also directly conflicts with *KSR* by relying on "[t]he fact that TWP's use for the mesh was electromagnetic shielding" instead of insect screening as a basis for finding non-obviousness. (App. 11) This Court held that it is an "error" to assume "that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem." *KSR*, 550 U.S. at 420. Respondent's defense of the Federal Circuit's decision on this point is to call it a "compelling fact" that TWP "did not use or think to use its electromagnetic-shielding mesh as an insect screen." BIO at 22. That simply repeats the *ipse dixit* argument that this Court rejected.

Respondent finally argues that Petitioners have not shown that the Federal Circuit is making these errors in every case. True, it is not, and Petitioners do not contend otherwise. But that was the case before *KSR* as well. *KSR* acknowledged that the Federal Circuit "no doubt" had conducted a proper analysis "in many cases." 550 U.S. at 419. Yet the Court granted review to ensure that no case would be decided based on the "fundamental misunderstandings" that the Federal Circuit expressed in that case. *Id.* at 422. To have the Federal Circuit apply *KSR* in

some cases but not others—to decide some cases correctly but make the same fundamental errors that this Court expressly corrected in others—is to leave the state of obviousness law in the same inconsistent place it began. The Court's holding in *KSR* is entitled to greater efficacy.

2. Under the proper legal approach, the district court was correct to grant summary judgment holding that the insect screen claimed by the '612 Patent was obvious as a matter of law. Under the first *Graham* factor, the TWP screen was relevant prior art because, "[w]hile the [TWP screen] is not designed specifically for application to the [insect screen] industry many of its characteristics and capabilities are similar to those of respondent's system." *Dann* v. *Johnston*, 425 U.S. 219, 228 (1976). Under the second *Graham* factor, respondents concede in their opposition that only three differences separate the TWP screening and the claims of the '612 Patent: (1) placement in a frame in a window or door; (2) a reflectance value of 0.04, 0.03, 0.02 or less; and (3) bonding of the screen elements at their intersections. BIO 14-15; *see also* App. 8, 26. Under the third *Graham* factor, it is undisputed that a person of ordinary skill in the insect screen art knew to paint screens black to reduce their reflectance and bond the elements and to place painted screens in a frame to make an insect screen. Pet. 8-9. The insect screen claimed by the '612 Patent truly is what *KSR* described as the plainest case of obviousness: "the mere application of a known technique to a piece of prior

art ready for the improvement." 550 U.S. at 417. All the '612 Patent teaches is to start with a less visible commercial wire screen to make a less visible insect screen. If this most obvious of claimed inventions cannot be held obvious on summary judgment, *KSR* was decided for naught.

3. The facts that Respondent spends much of its brief discussing do not remedy the Federal Circuit's legal errors or prevent summary reversal by this Court because they are legally immaterial. Respondent's extended discussion of its own invention story, in which it is ultimately forced to admit that all it did was "darken[ ] the TWP . . . mesh and install[ ] it in a frame," BIO 8, is legally irrelevant. Claimed inventions must stand on their own merits, not on their invention stories. Inventions cannot be held obvious based on "the manner in which the invention was made," 35 U.S.C. § 103, and "the converse is equally true." *Pfizer, Inc.* v. *Apotex, Inc.*, 480 F.3d 1348, 1369 (CAFed 2007). An inventor cannot manufacture patentability by taking an unnecessarily tortuous route to an obvious destination. "The question is not whether the combination was obvious to the *patentee* but whether the combination was obvious to a person with ordinary skill in the art." *KSR*, 550 U.S. at 420 (emphasis added).

Respondent's discussion of the supposed long-felt need for its invention and Pella's and Gore's alleged copying of its invention also does not create a material issue of fact because those factors cannot change the judgment of obviousness. Long-felt need and

copying are secondary considerations that may "give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham*, 383 U.S. at 17-18. But they cannot, as a matter of law, overcome a sufficiently strong showing of obviousness based on the primary *Graham* factors. In *KSR*, this Court devoted its entire opinion to a discussion of the primary *Graham* factors, then concluded simply that, "[l]ike the District Court . . . we conclude [the patentee] has shown no secondary factors to dislodge the determination that [the claimed invention] is obvious." 550 U.S. at 426. The Federal Circuit likewise has recognized in other cases that, when there is a "strong showing of obviousness" based on the primary factors, evidence of secondary considerations cannot create an issue of fact to prevent summary judgment. *Pfizer*, 480 F.3d at 1372; *see also Agrizap, Inc.* v. *Woodstream Corp.*, 520 F.3d 1337, 1344 (CAFed 2008); *Dystar Textilfarben GmbH* v. *C.H. Patrick Co.*, 464 F.3d 1356, 1371 (CAFed 2006). Because the invention claimed by the '612 Patent is so clearly obvious based on the primary *Graham* factors, Respondent's arguments about secondary factors are immaterial as a matter of law.

Respondent's arguments are also legally unfounded. "[C]opying requires the replication of a specific product." *Iron Grip Barbell Co.* v. *USA Sports, Inc.*, 392 F.3d 1317, 1325 (CAFed 2004). Here, it is undisputed that Pella and Gore did not copy the prototype screen made from painted TWP stainless steel wire mesh that Respondent displayed. Instead,

they developed a different screening material using uncoated PVDF (polyvinylidene fluoride) plastic fibers having a different element diameter and mesh count. Respondent's alleged invention also did not meet a long-felt but unmet need. If any long-felt need existed, it was for a sturdy, less visible insect screen. Respondent invented no such screen. Instead, its claimed invention encompasses a screen that is thirty times *weaker* than the TWP screen. *Compare* App. II-32, claim 22 (requiring a tensile strength of 5500 psi) *with* App. II-29, col. 10:65-67 (showing that TWP screening had a tensile strength of 162,000 psi).

As this Court held long ago, a person "who merely finds new uses for old inventions by shutting his eyes to their prior disadvantages" does not "thereby discover[ ] a patentable innovation." *United States* v. *Adams*, 383 U.S. 39, 52 (1966). Respondent did not solve a durability problem; it simply shut its eyes to the disadvantages of using flimsy screening. That is not a patentable innovation. The district court correctly granted summary judgment holding that the screen claimed by the '612 Patent was obvious. This Court should summarily reverse the decision of the Federal Circuit vacating that judgment.

CONCLUSION

Petitioners respectfully request the Court to summarily reverse the decision of the Federal Circuit. In the alternative, the Court should summarily

correct the Federal Circuit's legal errors that directly conflict with *KSR* and remand for further consideration under the proper standard.

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